STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 126116

TO: Emily M Le **Location: 3c35 / 3c18** **Wednesday, June 30, 2004** **Art Unit: 1648** **Phone: 272-0903** **Serial Number: 09 / 965116**	**From: Jan Delaval** **Location: Biotech-Chem Library** **Rem 1A51** **Phone: 272-2504** **jan.delaval@uspto.gov**

Search Notes

Access DB# 12646

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: _____ Examiner #: _____ Date: _____

Art Unit: _____ Phone Number 30_____ Serial Number: _____

Mail Box and Bldg/Room Location: Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

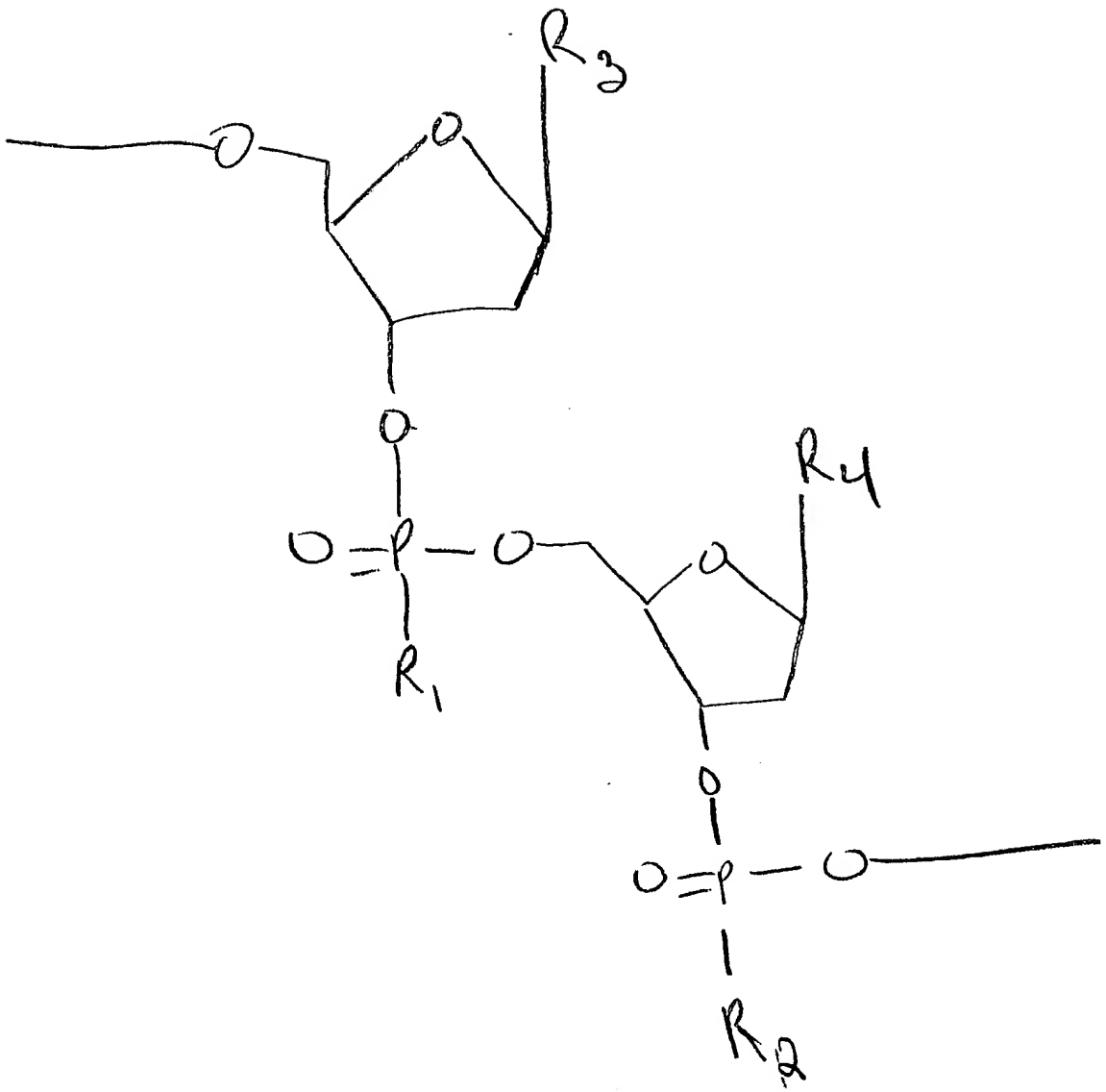
_____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

First Structure:

$X =$



R_1 & R_2 = S^- or O^-

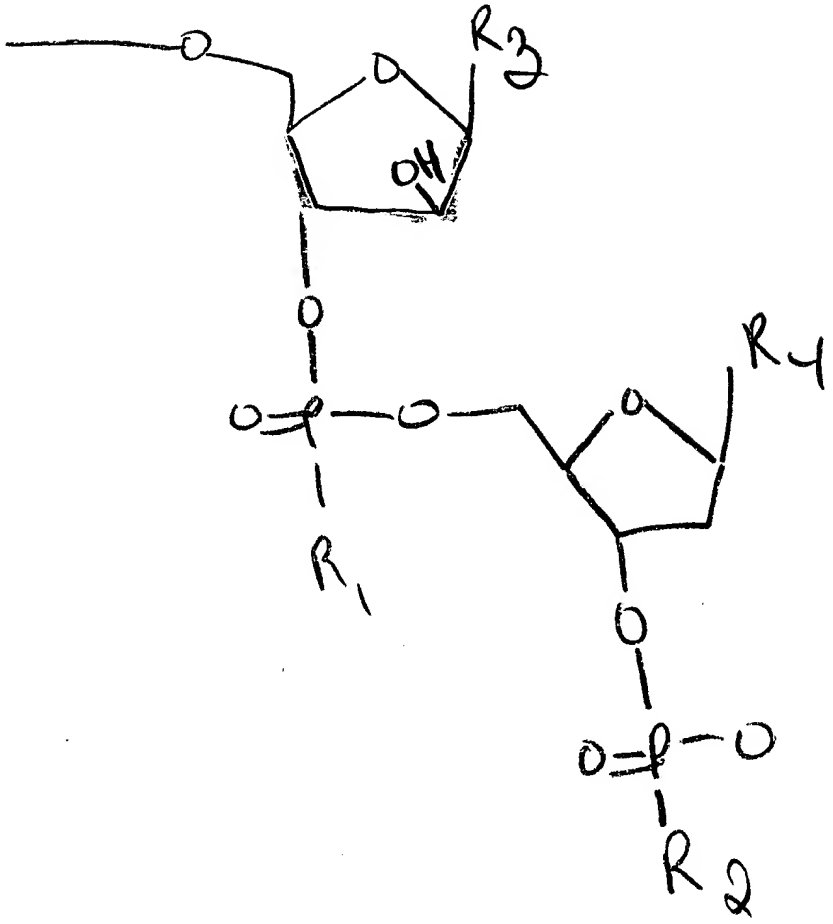
$R_1 = R_2$ @ all time.

R_3; See next page

R_4 = guanosine

Another Structure.

X =



R_1 & R_2 = S^- or O^-

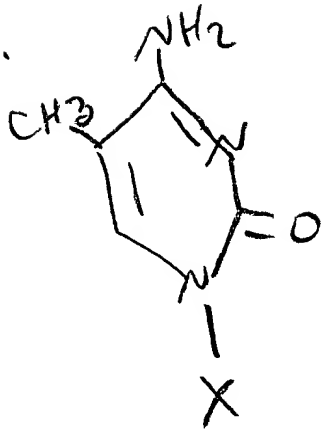
$R_1 = R_2$ @ all time

R_3 : See attached Page.

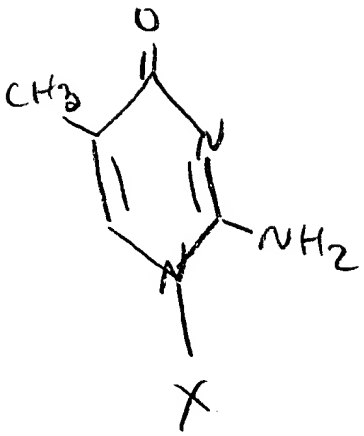
R_4 = guanosine

$R_3 =$

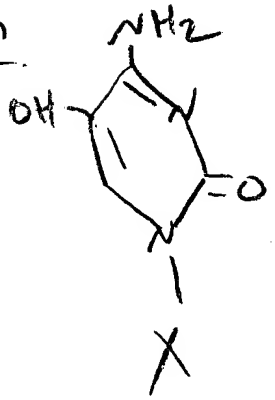
A.



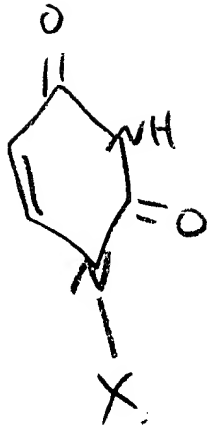
B.



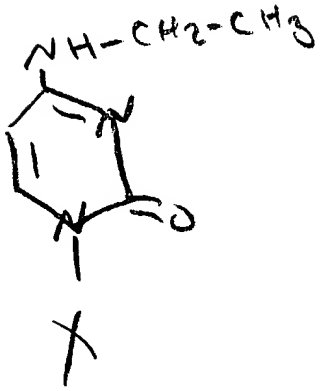
C.



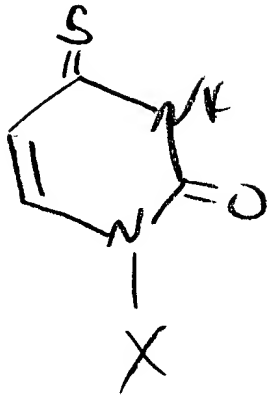
D.



E.



F.



```
=> fil reg
FILE 'REGISTRY' ENTERED AT 17:21:40 ON 30 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   29 JUN 2004  HIGHEST RN 701199-61-3
DICTIONARY FILE UPDATES:  29 JUN 2004  HIGHEST RN 701199-61-3

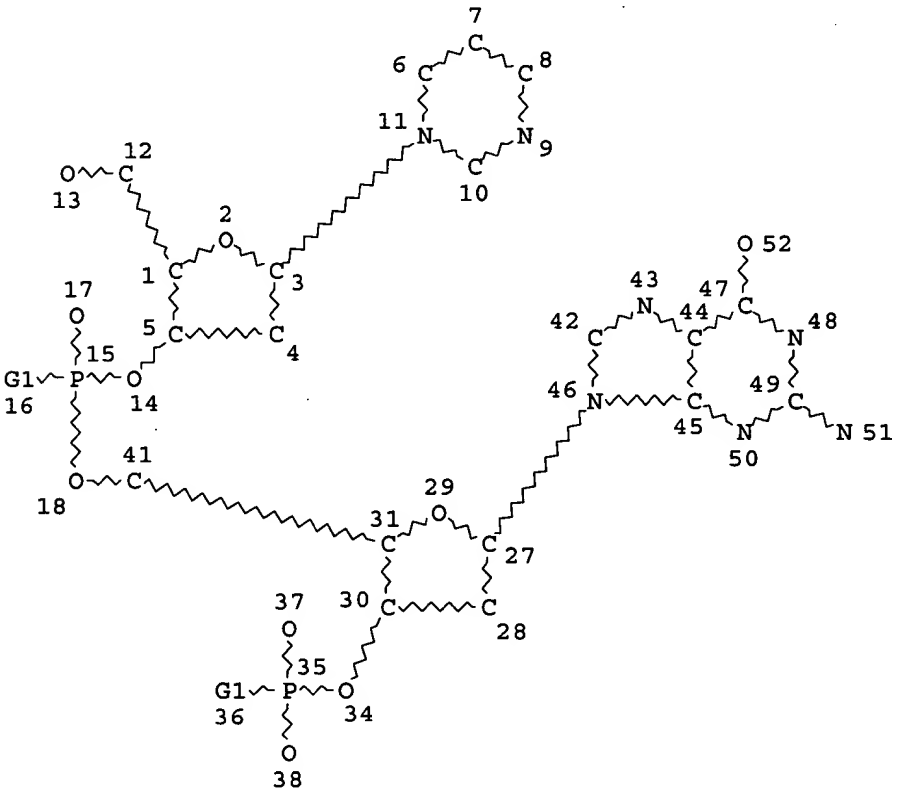
TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d sta que l28
L11             STR
```



```
VAR G1=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC  42  27   5  11
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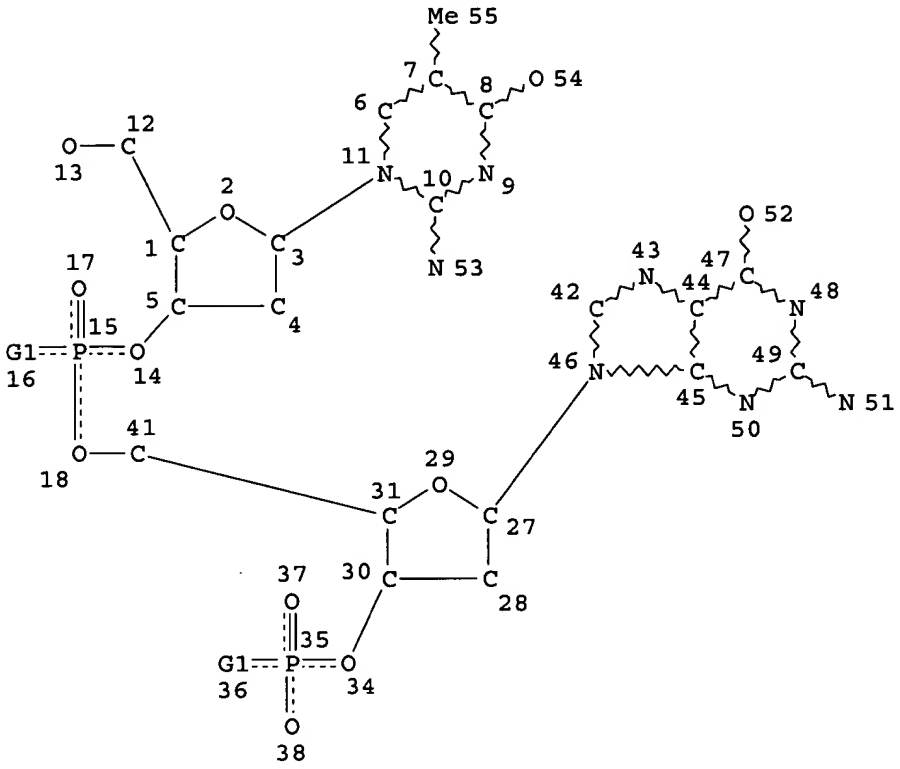
NUMBER OF NODES IS 40

STEREO ATTRIBUTES: NONE
L13 15439 SEA FILE=REGISTRY SSS FUL L11
L26 STR



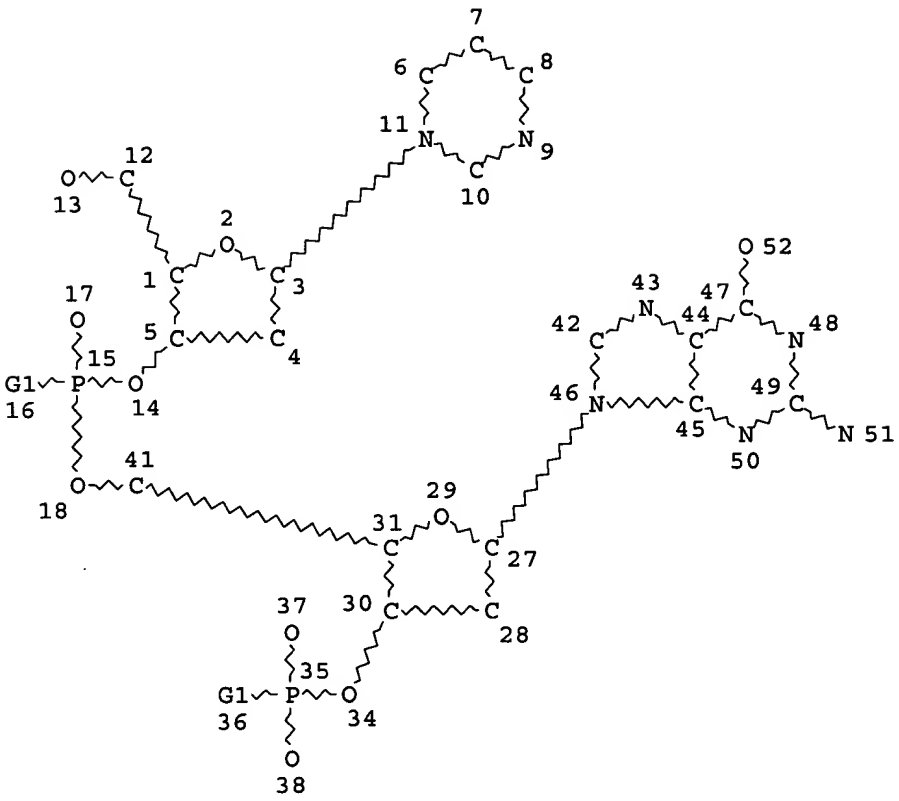
VAR G1=O/S
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 28
CONNECT IS E1 RC AT 51
CONNECT IS E1 RC AT 52
CONNECT IS E1 RC AT 53
CONNECT IS E1 RC AT 54
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 11 3 31 46
NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE
L28 3 SEA FILE=REGISTRY SUB=L13 SSS FUL L26

100.0% PROCESSED 11945 ITERATIONS 3 ANSWERS
SEARCH TIME: 00.00.01

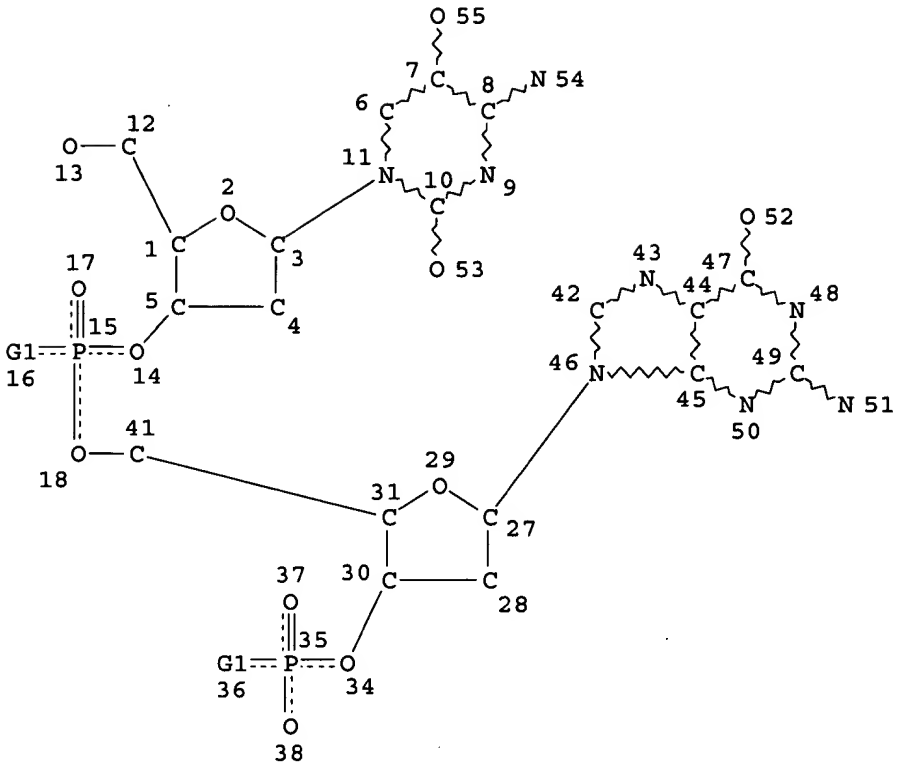
=> d sta que l31
L11 STR



VAR G1=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 42 27 5 11
NUMBER OF NODES IS 40

STEREO ATTRIBUTES: NONE
L13 15439 SEA FILE=REGISTRY SSS FUL L11
L29 STR



VAR G1=O/S
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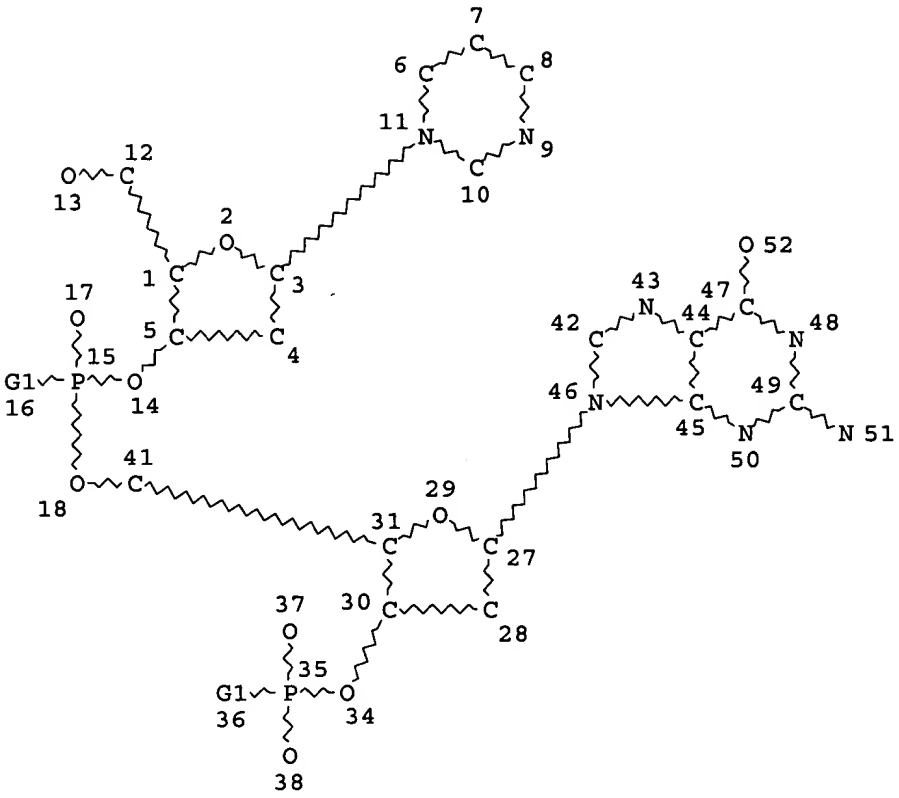
CONNECT IS E1 RC AT 51
CONNECT IS E1 RC AT 52
CONNECT IS E1 RC AT 53
CONNECT IS E1 RC AT 54
CONNECT IS E1 RC AT 55
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 11 3 31 46
NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE
L31 1 SEA FILE=REGISTRY SUB=L13 SSS FUL L29

100.0% PROCESSED 238 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

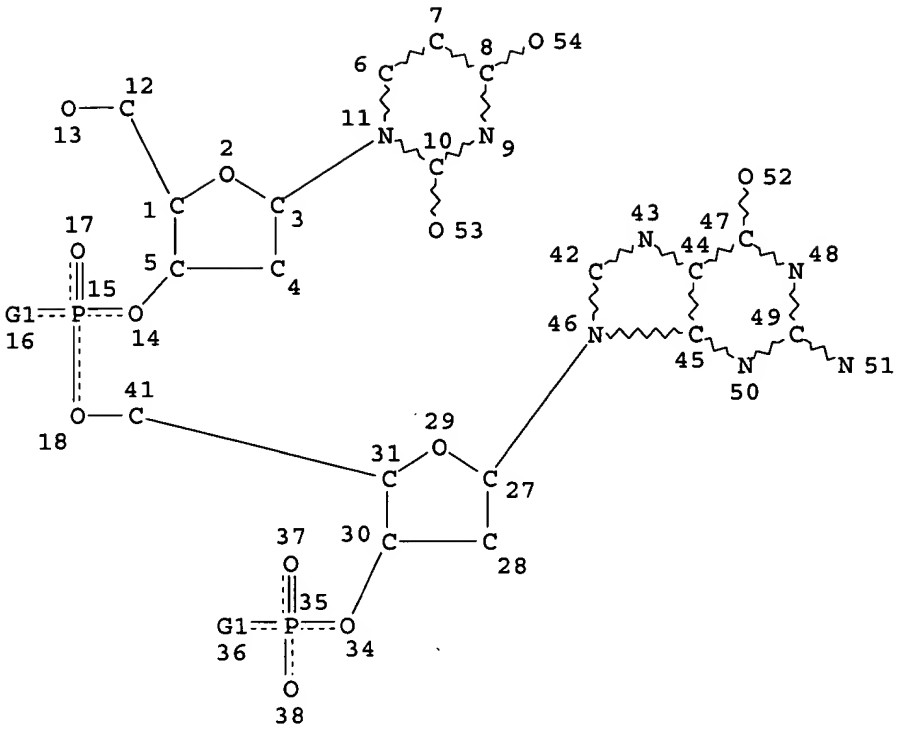
=> d sta que l34
L11 STR



VAR G1=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 42 27 5 11
NUMBER OF NODES IS 40

STEREO ATTRIBUTES: NONE
L13 15439 SEA FILE=REGISTRY SSS FUL L11
L32 STR



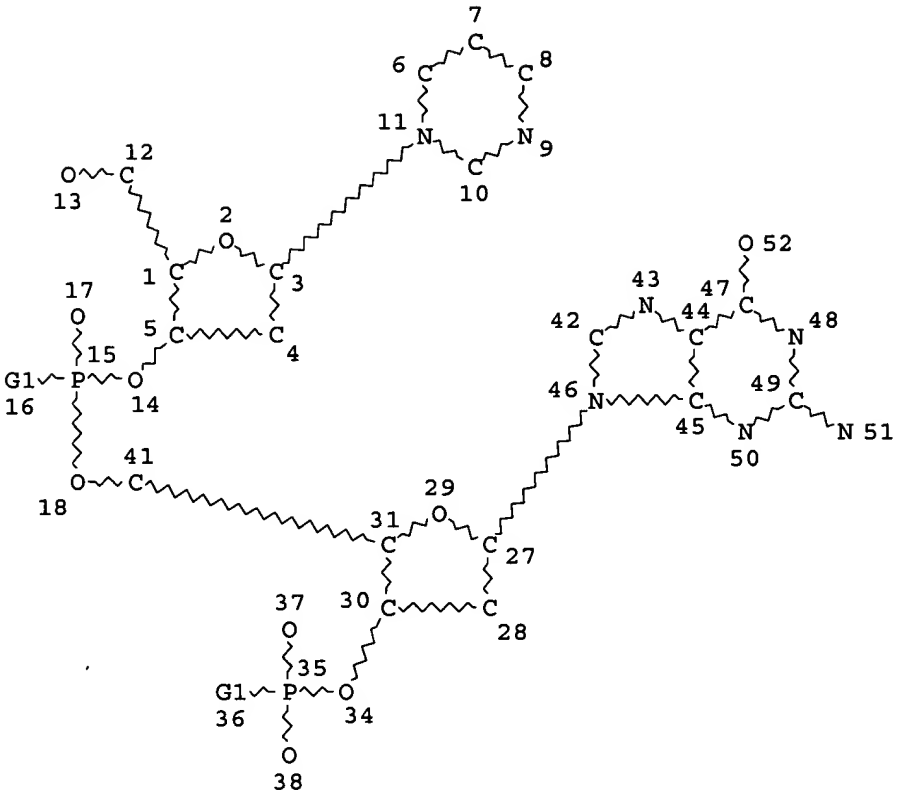
VAR G1=O/S
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 7
CONNECT IS E2 RC AT 28
CONNECT IS E1 RC AT 51
CONNECT IS E1 RC AT 52
CONNECT IS E1 RC AT 53
CONNECT IS E1 RC AT 54
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 11 3 31 46
NUMBER OF NODES IS 42

STEREO ATTRIBUTES: NONE
L34 115 SEA FILE=REGISTRY SUB=L13 SSS FUL L32

100.0% PROCESSED 15259 ITERATIONS 115 ANSWERS
SEARCH TIME: 00.00.01

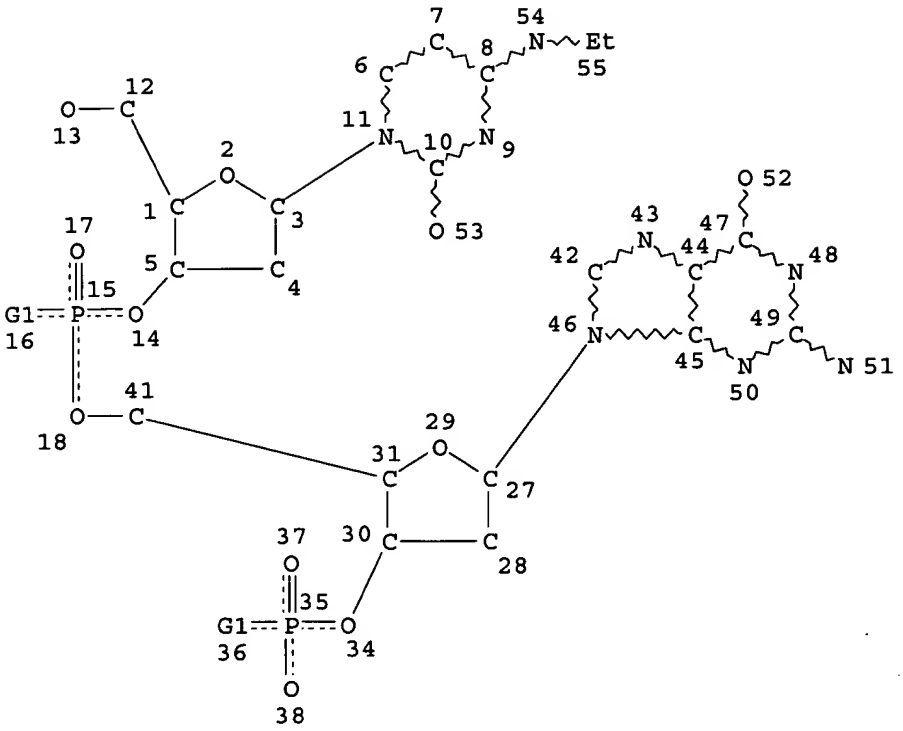
=> d sta que l37
L11 STR



VAR G1=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 42 27 5 11
NUMBER OF NODES IS 40

STEREO ATTRIBUTES: NONE
L13 15439 SEA FILE=REGISTRY SSS FUL L11
L35 STR



VAR G1=O/S
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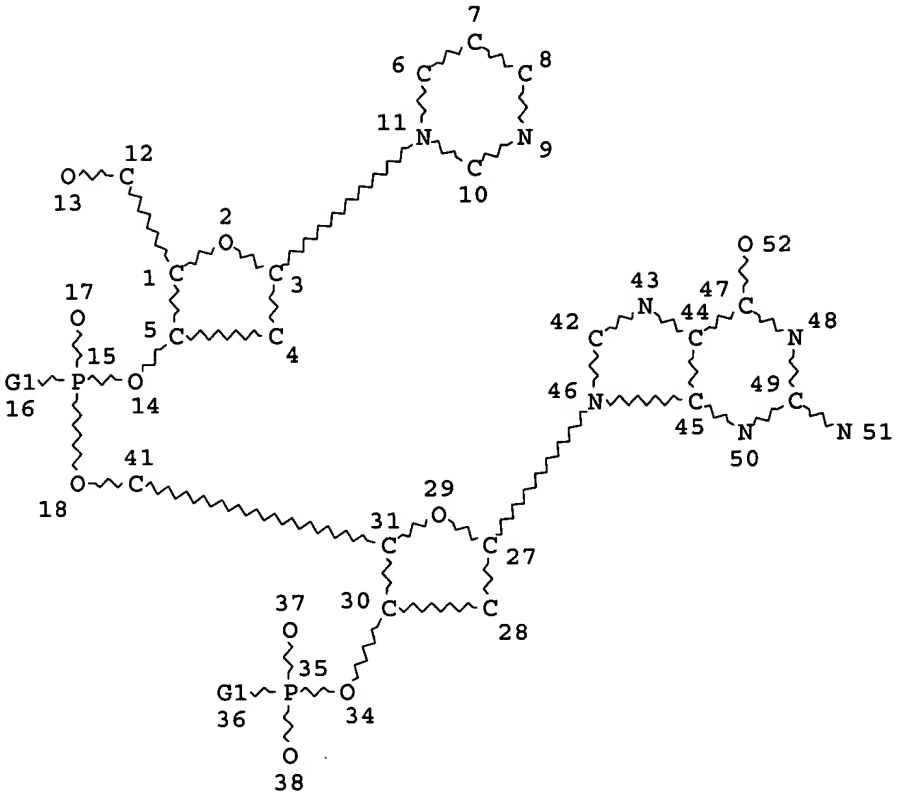
CONNECT IS E2 RC AT 7
CONNECT IS E2 RC AT 28
CONNECT IS E1 RC AT 51
CONNECT IS E1 RC AT 52
CONNECT IS E1 RC AT 53
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 11 3 31 46
NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE
L37 1 SEA FILE=REGISTRY SUB=L13 SSS FUL L35

100.0% PROCESSED 1203 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

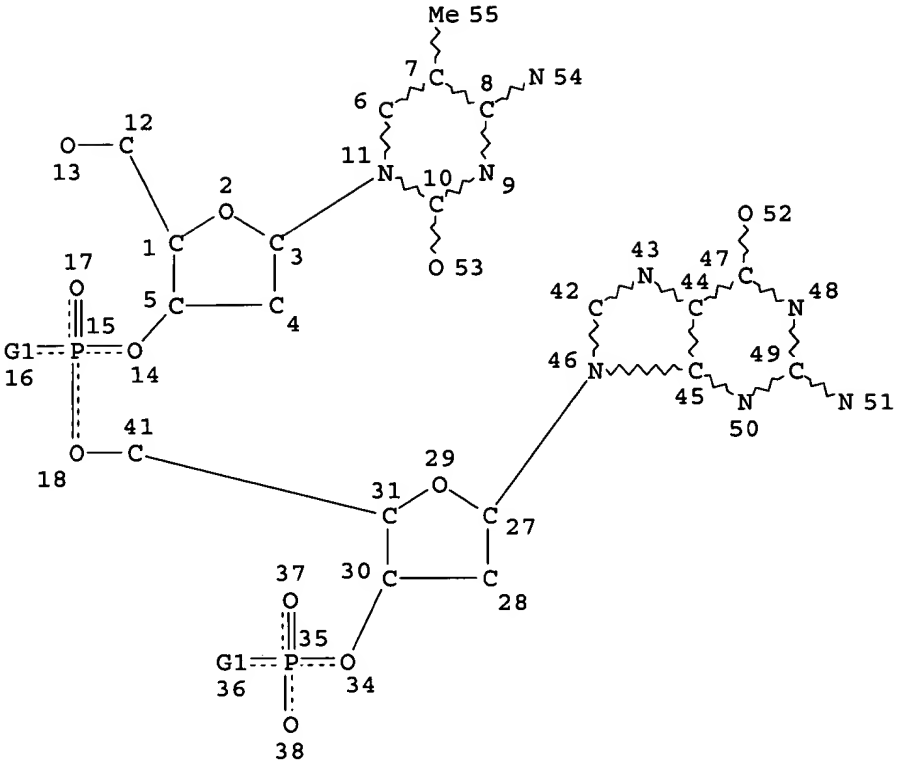
=> d sta que l42
L11 STR



VAR G1=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 42 27 5 11
NUMBER OF NODES IS 40

STEREO ATTRIBUTES: NONE
L13 15439 SEA FILE=REGISTRY SSS FUL L11
L41 STR



VAR G1=O/S
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CONNECT IS E2 RC AT 28
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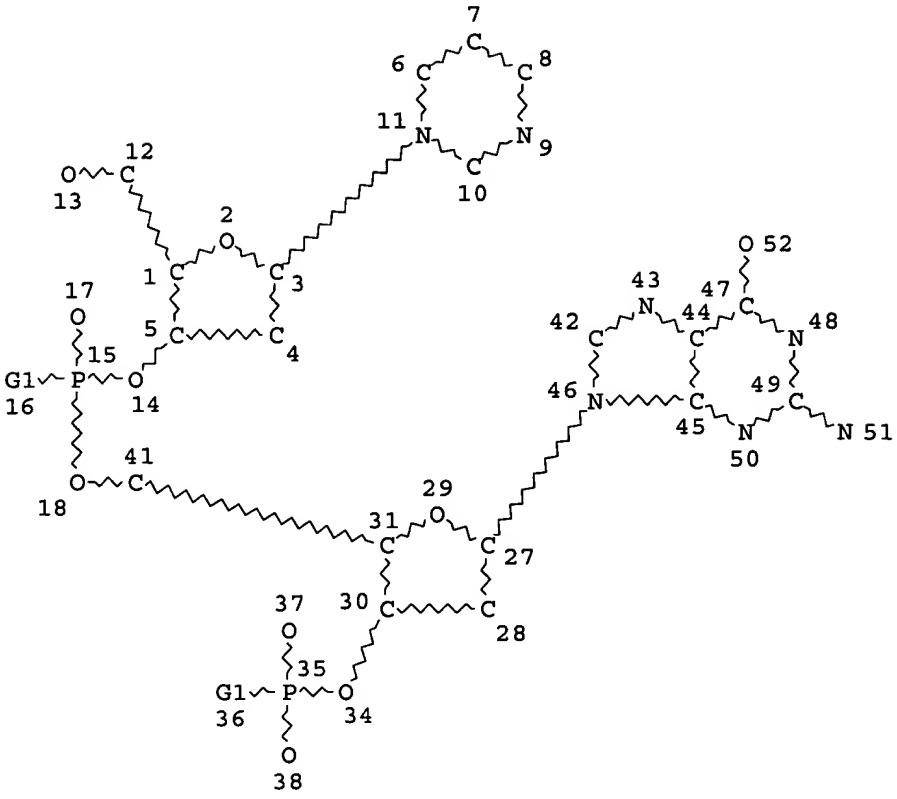
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 11 3 31 46
NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE
L42 68 SEA FILE=REGISTRY SUB=L13 SSS FUL L41

100.0% PROCESSED 15399 ITERATIONS 68 ANSWERS
SEARCH TIME: 00.00.01

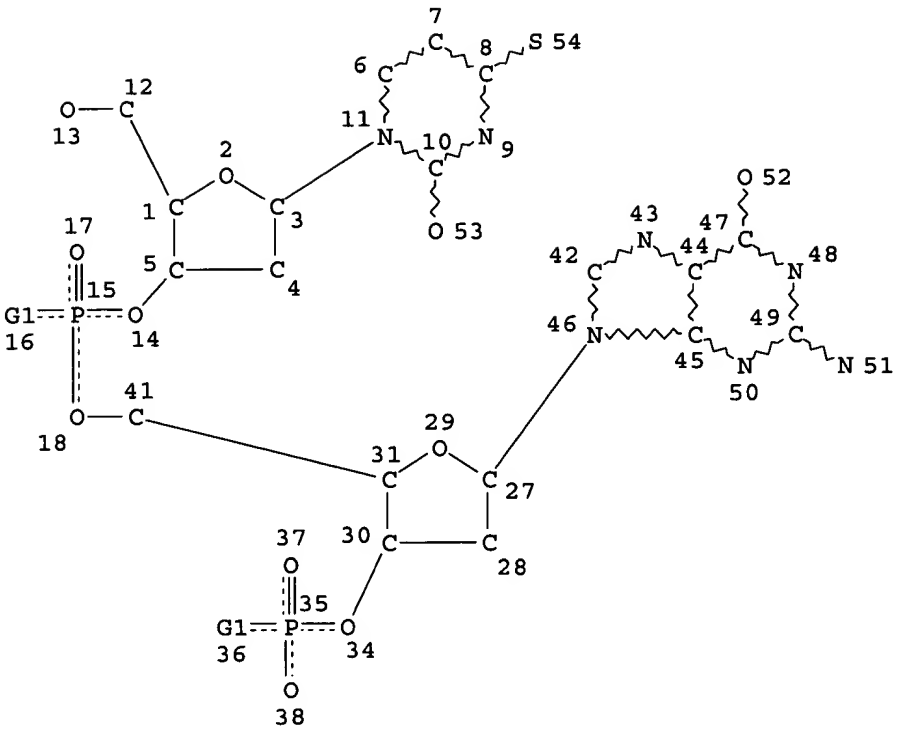
=> d sta que l40
L11 STR



VAR G1=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 42 27 5 11
NUMBER OF NODES IS 40

STEREO ATTRIBUTES: NONE
L13 15439 SEA FILE=REGISTRY SSS FUL L11
L38 STR



VAR G1=O/S
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CONNECT IS E2 RC AT 7
CONNECT IS E2 RC AT 28
CONNECT IS E1 RC AT 51
CONNECT IS E1 RC AT 52
CONNECT IS E1 RC AT 53
CONNECT IS E1 RC AT 54
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 8 3 31 46
NUMBER OF NODES IS 42

STEREO ATTRIBUTES: NONE
L40 0 SEA FILE=REGISTRY SUB=L13 SSS FUL L38

100.0% PROCESSED 36 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

=> d his

(FILE 'REGISTRY' ENTERED AT 16:51:49 ON 30 JUN 2004)
DEL HIS
ACT LE965/A

L1 STR
L2 1004 SEA FILE=REGISTRY SSS FUL L1

L3 STR L1
ACT LE965B/A

```
                ---------
L4                STR
L5   (       1004)SEA FILE=REGISTRY SSS FUL L4
L6                STR
L7   (        520)SEA FILE=REGISTRY SUB=L5 SSS FUL L6
L8                STR
L9            247 SEA FILE=REGISTRY SUB=L7 SSS FUL L8
                ---------
L10            50 S L3
L11               STR L3
L12            50 S L11
L13         15439 S L11 FUL
                  SAV TEMP L13 LE965A/A
L14               STR L11
L15               STR L14
L16               STR L15
L17               STR L16
L18               STR L17
L19               STR L18
L20            50 S L14-L19 SAM SUB=L13
L21               STR L14
L22             2 S L21 SAM SUB=L13
L23            67 S L21 FUL SUB=L13
                  SAV L23 LE965C/A
L24               STR L21
L25             0 S L24 SAM SUB=L13
L26               STR L24
L27             0 S L26 SAM SUB=L13
L28             3 S L26 FUL SUB=L13
                  SAV L28 LE965D/A
L29               STR L26
L30             0 S L29 SAM SUB=L13
L31             1 S L29 FUL SUB=L13
                  SAV L31 LE965E/A
L32               STR L29
L33             7 S L32 SAM SUB=L13
L34           115 S L32 FUL SUB=L13
                  SAV L34 LE965F/A TEMP
L35               STR L32
L36             0 S L35 SAM SUB=L13
L37             1 S L35 FUL SUB=L13
                  SAV L37 TEMP LE965G/A
L38               STR L35
L39             0 S L38 SAM SUB=L13
L40             0 S L38 FUL SUB=L13
                  SAV L40 TEMP LE965H/A
L41               STR L21
L42            68 S L41 FUL SUB=L13
                  SAV TEMP L42 LE965I/A
L43           188 S L28,L31,L34,L37,L42
                  DEL LE965C/A
                  DEL LE965D/A
                  DEL LE965E/A
                  SAV TEMP L23 LE965C/A
                  SAV TEMP L28 LE965D/A
                  SAV L31 TEMP LE965E/A

     FILE 'HCAPLUS' ENTERED AT 17:18:04 ON 30 JUN 2004
L44           165 S L43
L45             0 S L44 AND (KANDIMALLA E? OR ZHAO Q? OR YU D? OR AGRAWAL S?)/AU
L46           140 S L44 AND (PD<=20000926 OR PRD<=20000926 OR AD<=20000926)
L47            15 S L46 AND P/DT
```

FILE 'REGISTRY' ENTERED AT 17:21:40 ON 30 JUN 2004

=> => fil hcaplus
FILE 'HCAPLUS' ENTERED AT 17:22:58 ON 30 JUN 2004

FILE COVERS 1907 - 30 Jun 2004 VOL 141 ISS 1
FILE LAST UPDATED: 29 Jun 2004 (20040629/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all hitstr tot l47

L47 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:20328 HCAPLUS
DN 140:87674
ED Entered STN: 11 Jan 2004
TI Oligonucleotides for silencing transcription by methylation of cytosines in DNA and their uses, including as antitumor agents
IN Hu, Ji-Fan; Bowersox, Scott
PA GMR, USA
SO U.S. Pat. Appl. Publ., 34 pp., Cont.-in-part of U.S. Ser. No. 643,128.
CODEN: USXXCO
DT **Patent**
LA English
IC ICM A61K048-00
ICS C07H021-04
NCL 514044000; 536023100
CC 1-6 (Pharmacology)
Section cross-reference(s): 3, 10, 11, 14, 63
FAN.CNT 2

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE	
PI	US 2004006036	A1	20040108		US 2003-422466	20030422	<--
PRAI	US 2000-196749P	P	20000412	<--			
	US 2000-214148P	P	20000626	<--			
	US 2000-643128	A2	20000821	<--			

AB The invention provides methods and compns. related to oligonucleotides that silence target genes within a cell. The oligonucleotides include an oligonucleotide methylator segment that has a first strand and a second strand complementary to the first strand. The first strand can include at least one m5CG sequence which is paired with an unmethylated CG sequence on the second strand. Alternatively, the first strand can include at least one m5CN1G sequence paired with an unmethylated CN2G sequence on the second strand, wherein N1 is any nucleotide, and N2 is a nucleotide that pairs with N1. The oligonucleotides also include a single-stranded DNA binding segment that is complementary to a nucleotide sequence in the target gene. The DNA binding segment includes at least one m5CG sequence

m5CG or at least one 5CN3G sequence, wherein N3 is any nucleotide. The methylator segment and DNA binding segment are operably linked such that the oligonucleotide is capable of inducing methylation at the target nucleotide sequence, thereby silencing the target gene. The putative mechanism is that after binding to the target sequence, the silencing compound forms a semi-methylated hairpin complex in the local chromatin foci. This structure mimics the DNA replication fork structure formed during DNA replication and activates DNA methyltransferase 1 (Dnmt1). Dnmt1 adds a Me group at the 5'-position of cytosine of CpG dinucleotide in the target sequence as it usually does at the replication fork site. DNA methylation spreads, so that the whole DNA region is hypermethylated and the target gene becomes silenced. The examples of the invention show reduced levels of human gene Igf2 mRNA after Hep3B tumor cells were treated with a methylated 22-mer and ability of the same 22-mer to prolong survival in mice that were implanted with Hep3B cells. Oligonucleotides targeted to a CpG island sequence in the Bcl-2 gene inhibited Bcl-2 mRNA and protein production in MCF-7 cells. Oligonucleotide silencing compds. directed against other human genes were also investigated.

ST oligonucleotide methylator DNA target binding 5methylcytosine methylation gene silencing; sequence oligonucleotide Igf2 Bcl2 MKPI CDC25A gene silencing; antitumor agent oligonucleotide transformation gene silencing DNA methylation

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(3'-untranslated region, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(5'-untranslated region, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Gene, animal
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Bcl-2, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Gene, animal
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(CDC25, CDC25A, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(CpG island, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Nucleic acid hybridization
(DNA-DNA; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Animal cell line
(H23 (lung cancer); oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Animal cell line
(HEP-3B; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Gene, animal
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(IGF2, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Animal cell line

(MCF-7; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Gene, animal
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MKP-I, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Animal cell line
(T47D; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Breeding, animal
Breeding, plant
(cloning; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their uses)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(exon, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Tumor necrosis factors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene for; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Conformation
(hairpin loop; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(intron, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Drug delivery systems
(liposomes; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT DNA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methylation; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT DNA
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methylcytosine-containing; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Animal cell
Antitumor agents
DNA sequences
Gene therapy
Human
Mammalia
Transformation, genetic
(oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Phosphorothioate oligodeoxyribonucleotides
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Oligodeoxyribonucleotides
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Oligonucleotides
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES

(Uses)
(oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Peptide nucleic acids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Plant cell
Prokaryote
(oligonucleotides for silencing transcription by methylation of cytosines in DNA and their uses)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(polyadenylation signal, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Transcriptional regulation
(repression; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(splice site, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(suppressor element, target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Enhancer (genetic element)
Promoter (genetic element)
Silencer (genetic element)
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(target; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT Mouse
(tumor model; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT 2462-63-7, Dioleoyl phosphatidylethanolamine 68737-67-7, Dioleoyl phosphatidylcholine 104162-48-3, N-[1-(2,3-Dioleyloxy)propyl]-n,n,n-trimethylammonium chloride
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(carrier; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT 645003-49-2 645003-50-5 645003-51-6 645003-52-7
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(human gene Bcl-2 specific oligonucleotide; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT 645003-56-1 645003-57-2 645003-58-3
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(human gene CDC25A specific oligonucleotide; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT 645003-48-1
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(human gene Igf2 specific oligonucleotide Hep22M; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT 645003-53-8 645003-54-9 645003-55-0
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(human gene MKP-I specific oligonucleotide; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

IT **642091-66-5**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methylator oligonucleotide; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

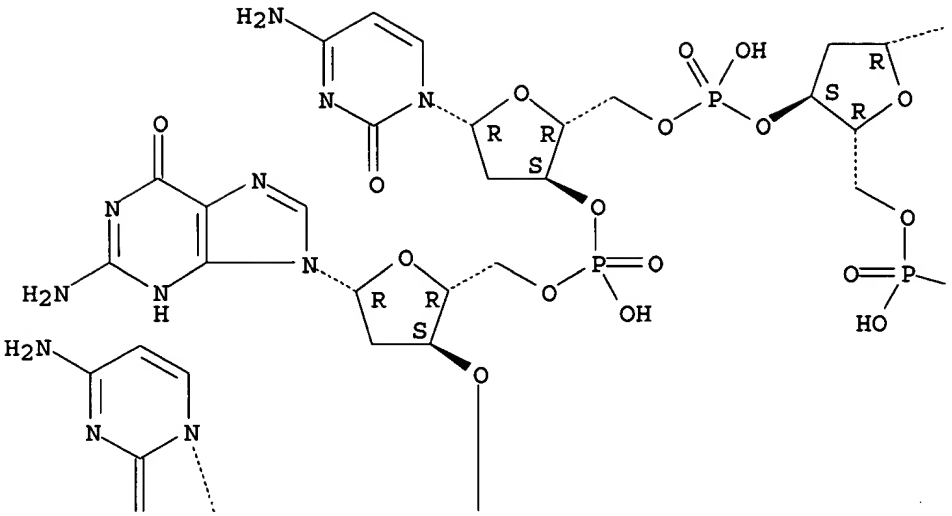
IT 644474-12-4 644474-13-5 644474-14-6 644474-15-7 644474-16-8
644474-17-9 644474-18-0 644474-19-1 644474-20-4 644474-21-5
644474-22-6 644474-23-7 644474-24-8 644474-25-9 644474-26-0
644474-27-1 644474-28-2 644474-29-3 644474-30-6 644474-31-7
644474-32-8 644474-33-9 644474-34-0 644474-35-1 644474-36-2
644474-37-3 644474-38-4 644474-39-5 644474-40-8 644474-41-9
644474-42-0 644474-43-1 644474-44-2 644474-45-3 644474-46-4
644474-47-5 644474-48-6 644474-49-7 644474-50-0 644474-51-1
644474-52-2 644474-53-3 644474-54-4 644474-55-5 644474-56-6
644474-57-7 644474-58-8 644474-59-9 644474-60-2 644474-61-3
644474-62-4 644474-63-5 644474-64-6 644474-65-7 644474-66-8
644474-67-9 644474-68-0 644474-69-1 644474-70-4 644474-71-5
644474-72-6 644474-73-7 644474-74-8 644474-75-9 644474-76-0
644474-77-1 644474-78-2
RL: PRP (Properties)
(unclaimed sequence; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their uses, including as antitumor agents)

IT **642091-66-5**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methylator oligonucleotide; oligonucleotides for silencing transcription by methylation of cytosines in DNA and their use as antitumor agents)

RN 642091-66-5 HCAPLUS
CN Cytidine, 2'-deoxyguanylyl-(3'→5')-2'-deoxy-5-methylcytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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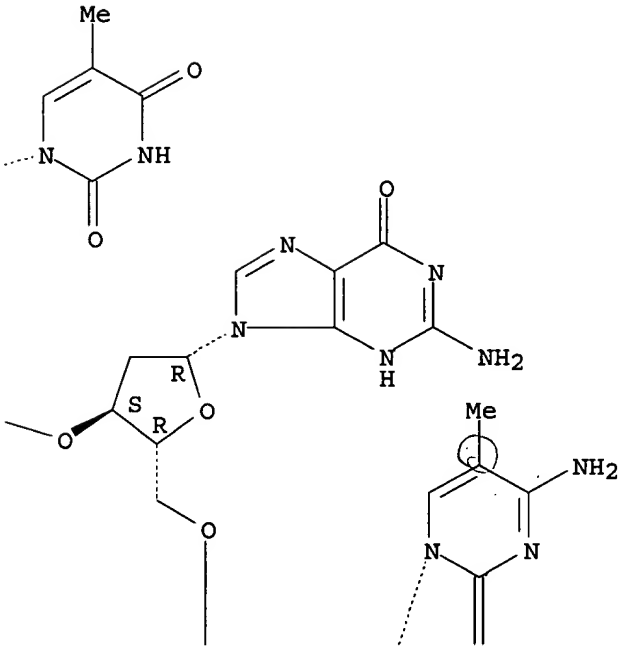

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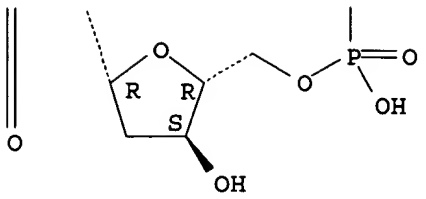

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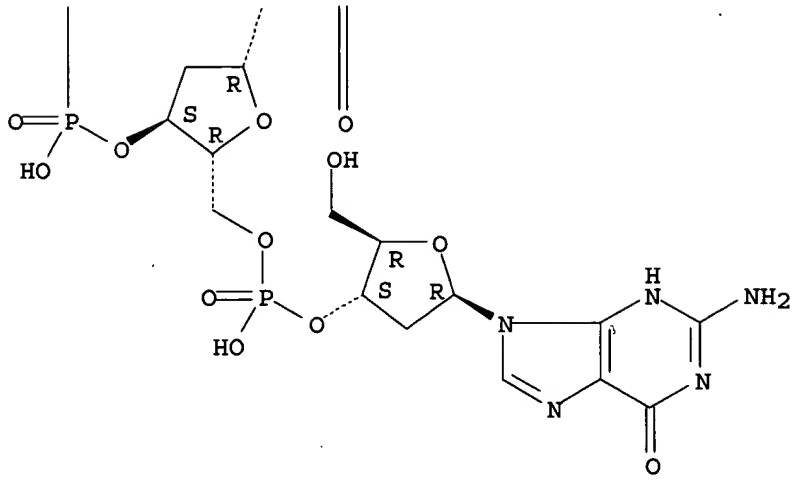

L47 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:912932 HCAPLUS
DN 139:394869
ED Entered STN: 21 Nov 2003
TI Cancer vaccines and methods of using the same
IN Tam, Ying K.; Semple, Sean; Klimuk, Sandra; Chikh, Ghania
PA Inex Pharmaceuticals Corporation, Can.
SO PCT Int. Appl., 119 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM A61K
CC 15-2 (Immunochemistry)
Section cross-reference(s): 63
FAN.CNT 8

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003094828	A2	20031120	WO 2003-CA679	20030512
WO 2003094828	A3	20040205		

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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,

GW, ML, MR, NE, SN, TD, TG

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	US 2004009943	A1	20040115	US 2003-437263	20030512	<--
	US 2004009944	A1	20040115	US 2003-437275	20030512	
	US 2004013649	A1	20040122	US 2003-437258	20030512	
PRAI	US 2002-379343P	P	20020510			
	US 2002-290545	A	20021107			
	US 2003-460646P	P	20030404			
	US 1999-151211P	P	19990827	<--		
	US 2000-176406P	P	20000113	<--		
	US 2000-649527	A	20000828	<--		
	US 2001-337522P	P	20011107			
	US 2003-454298P	P	20030312			

AB The authors disclose lipid-oligodeoxynucleotide formulations which, in combination with one or more tumor-associated antigens (TAA), are capable of stimulating strong, Th1 cell-biased immune responses to TAA in vivo. In one example, an enhanced cytotoxic T-cell response against melanoma was elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides formulated with peptides derived from TRP-2 and gp100.

ST immunostimulation liposome CpG oligodeoxynucleotide tumor antigen vaccine

IT Oligodeoxyribonucleotides
Phosphorothioate oligodeoxyribonucleotides
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(CpG-containing; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT Antibodies and Immunoglobulins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(IgG2a; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT Antigens
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MAA (melanoma-associated antigen), gp100; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT Antigens
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MART-1; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT Antigens
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PSCA (prostate stem cell antigen); enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT Proteins
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(TRP-1 (tyrosinase-related protein 1); enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT Proteins
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(TRP-2 (tyrosinase-related protein 2); enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT Dendritic cell
(activation by liposome-encapsulated immunostimulatory sequences)

IT Leukocyte

(activation; by liposome-encapsulated immunostimulatory sequences)
IT Immunostimulation
(by liposome-encapsulated CpG-containing oligodeoxynucleotides)
IT Lipids, biological studies
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cationic; enhanced immune response to tumor-associated antigens is elicited by immunostimulatory oligodeoxynucleotides encapsulated in liposomes of)
IT T cell (lymphocyte)
(cytotoxic; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)
IT Melanoma
(enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)
IT Prostate-specific antigen
neu (receptor)
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)
IT Glycoproteins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(gp75; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)
IT T cell (lymphocyte)
(helper cell/inducer, TH1; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)
IT Cell activation
(leukocyte; by liposome-encapsulated immunostimulatory sequences)
IT Immune tolerance
(liposome-encapsulated immunostimulatory oligodeoxynucleotides elicit enhanced immune response to tumor-associated self-antigens in relation to loss of)
IT Drug delivery systems
(liposomes; enhanced immune response to tumor-associated antigens is elicited by immunostimulatory oligodeoxynucleotides encapsulated in)
IT Antigens
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(microbial; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)
IT Lymphocyte
(natural killer cell; activation by liposome-encapsulated immunostimulatory sequences)
IT Interleukin 12
Interleukin 6
Monocyte chemoattractant protein-1
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(release is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)
IT Antigens
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tumor-associated; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)
IT Epitopes
(tumor-associated; liposome-encapsulated immunostimulatory

oligodeoxynucleotides elicit enhanced immune response to)

IT Lipopeptides
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tumor-associated; liposome-encapsulated immunostimulatory oligodeoxynucleotides elicit enhanced immune response to)

IT Vaccines
(tumor; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT Antitumor agents
(vaccines; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT Interferons
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(γ; release is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT 115427-51-5, LR-3280 374825-54-4, INX-6295 387819-74-1, INX-5001
525625-48-3, INX-1826 525625-49-4, INX-6300 525625-50-7, INX-6303
525625-52-9, INX-2006 537732-14-2, INX 6298 624753-44-2, INX-1826m
624753-45-3, INX-2006m **627100-27-0**, INX-5001m
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT 9002-10-2, Tyrosinase 9074-87-7, Prostate-specific membrane antigen
226408-87-3, Prostase
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT 9001-77-8
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(of prostate; enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

IT 133419-43-9 625137-25-9 625137-26-0 625137-27-1 625137-28-2
625137-29-3 625137-30-6 625137-31-7 625137-32-8 625137-33-9
625137-34-0 625137-35-1 625137-36-2 625137-37-3 625137-38-4
625137-39-5 625137-40-8 625137-41-9 625137-43-1 625386-55-2
RL: PRP (Properties)
(unclaimed sequence; cancer vaccines and methods of using the same)

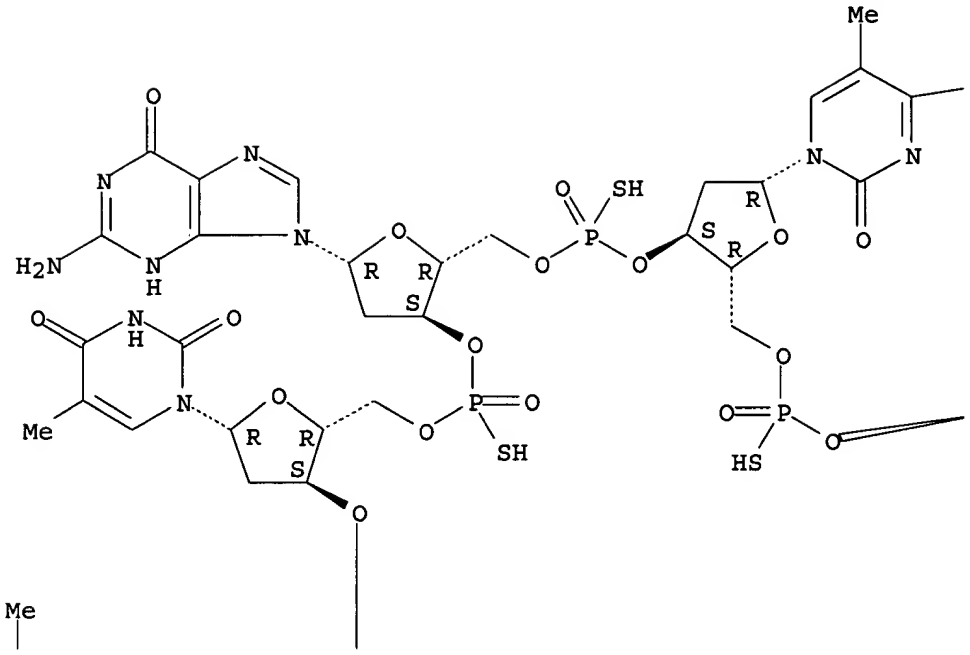
IT **627100-27-0**, INX-5001m
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(enhanced immune response to tumor-associated antigens is elicited by liposome-encapsulated immunostimulatory oligodeoxynucleotides)

RN 627100-27-0 HCAPLUS

CN Thymidine, 2'-deoxy-P-thioadenylyl-(3'→5')-2'-deoxy-P-thioadenylyl-(3'→5')-2'-deoxy-5-methyl-P-thiocytidylyl-(3'→5')-2'-deoxy-P-thioguanylyl-(3'→5')-P-thiothymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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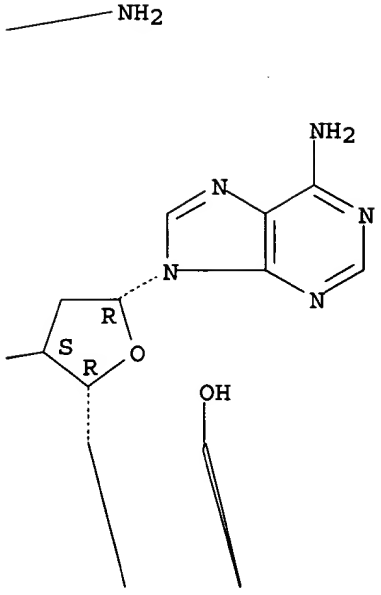

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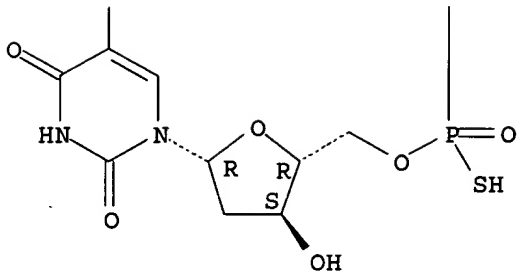

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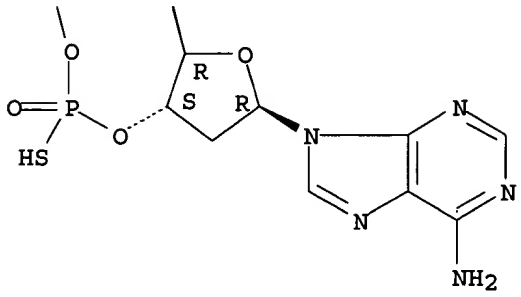

L47 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:473146 HCAPLUS
DN 139:47171
ED Entered STN: 20 Jun 2003
TI The modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses
IN Blatt, Lawrence; McSwiggen, James; Chowrira, Bharat
PA USA
SO U.S. Pat. Appl. Publ., 53 pp., Cont.-in-part of U.S. Ser. No. 780,533.
CODEN: USXXCO
DT **Patent**
LA English
IC ICM A61K048-00
ICS C07H021-02; C12N009-99
NCL 435184000; 536023100; 514044000
CC 1-10 (Pharmacology)
Section cross-reference(s): 3, 7
FAN.CNT 12

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PI	US 2003113891	A1	20030619	US 2001-827395	20010405 <--
	US 2003060611	A1	20030327	US 2001-780533	20010209 <--
	WO 2002081628	A2	20021017	WO 2002-US10512	20020403
	WO 2002081628	A3	20030220		
	WO 2002081628	C1	20030828		

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EP 1386004 A2 20040204 EP 2002-763926 20020403
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US 2003203870 A1 20031030 US 2003-430882 20030506 <--
PRAI US 2000-181797P P 20000211 <--
US 2001-780533 A2 20010209
WO 2001-US4273 A2 20010209
US 2001-827395 A 20010405
US 2001-294412P P 20010529
US 2001-315315P P 20010828
WO 2002-US10512 W 20020403

AB The invention features novel nucleic acid-based mols., including enzymic nucleic acid mols. (ribozymes), antisense nucleic acids, 2-5A antisense chimeras, triplex DNA, decoy RNA, aptamers, antisense nucleic acids containing RNA cleaving chemical groups, and methods to modulate gene expression, for example, genes encoding certain myelin proteins that inhibit or are involved in the inhibition of neurite growth, including axonal regeneration in the CNS. In particular, the instant invention features nucleic-acid based techniques to modulate the expression of NOGO and NOGO receptor genes. Specifically, the invention features the use of nucleic acid-based techniques to specifically inhibit the expression of NOGO gene (Genbank Accession Number AB020693) and NOGO-66 receptor (Genbank Accession Number AF283463). Thus, nucleic acids encoding these products are scanned to identify targets for cleavage by designed enzymic nucleic acids, such as hammerhead ribozymes, Zinzymes, DNAzymes, and Amberzymes. Chemical modifications in the sugar, base, and/or phosphate backbones of these enzymic nucleic acids is carried out to improve their stability.

ST inhibition NOGO receptor gene expression antisense ribozyme; NOGO gene expression modulation antisense ribozyme oligonucleotide; neurite outgrowth CNS injury therapeutics NOGO receptor inhibition

IT Ribozymes

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(G-cleaver motif; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Ribozymes
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NCH motif; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT mRNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(NOGO receptor, inhibition of expression; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(NOGO-66; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Gene, animal
Receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(NOGO; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Ribozymes
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Neurospora VS motif; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Nogo, NOGO-A, NOGO-B, NOGO-C; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Ribozymes
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amberzyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Human
(cell; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Nervous system, disease
(central, injury; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Ribozymes
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(deoxy, DNAzyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Cations
(divalent, cleavage carried out in presence of; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Gene, animal

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(for NOGO receptor; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Ribozymes
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(group I intron; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Conformation
(hairpin loop, ribozyme containing; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Ribozymes
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hammerhead; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Spinal cord, disease
(injury; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Genetic element
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(intron, group I, ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Animal cell
(mammalian, expression host; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Drugs
Molecular cloning
(modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Antisense oligonucleotides
Phosphorothioate oligonucleotides
Ribozymes
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Myelin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(modulation of expression of myelin protein genes; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Regeneration, animal
(nerve; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Growth factors, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(neurite extension factors; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Growth inhibitors, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(neurite growth inhibitors; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT Axon
(outgrowth, modulation of expression of myelin proteins involved in; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)
IT Nerve
(regeneration; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)
IT Hepatitis delta virus
(ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)
IT Viral RNA
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(ribozymes, hepatitis Delta virus; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)
IT Brain, disease
(stroke; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)
IT Ribozymes
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(viral, hepatitis Delta virus; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)
IT Ribozymes
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(zinzyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)
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RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(Amberzyme ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

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RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)

(Amberzyme ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 546170-13-2P 546170-14-3P 546170-15-4P 546170-16-5P 546170-17-6P
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RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(DNAzyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

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546173-63-1P 546173-64-2P 546173-65-3P 546173-66-4P 546173-67-5P
546173-68-6P 546173-69-7P 546173-70-0P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(DNAzyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 546163-23-9P 546163-24-0P 546163-25-1P 546163-26-2P 546163-27-3P
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546163-33-1P 546163-34-2P 546163-35-3P 546163-36-4P 546163-37-5P
546163-38-6P 546163-39-7P 546163-40-0P 546163-41-1P 546163-42-2P
546163-43-3P 546163-44-4P 546163-45-5P 546163-46-6P 546163-47-7P
546163-48-8P 546163-49-9P 546163-50-2P 546163-51-3P 546163-52-4P
546163-53-5P 546163-54-6P 546163-55-7P 546163-56-8P 546163-57-9P
546163-58-0P 546163-59-1P 546163-60-4P 546163-61-5P 546163-62-6P
546163-63-7P 546163-64-8P 546163-65-9P 546163-66-0P 546163-67-1P
546163-68-2P 546163-69-3P 546163-70-6P 546163-71-7P 546163-72-8P
546163-73-9P 546163-74-0P 546163-75-1P 546163-76-2P 546163-77-3P
546163-78-4P 546163-79-5P 546163-80-8P 546163-81-9P 546163-82-0P
546163-83-1P 546163-84-2P 546163-85-3P 546163-86-4P 546163-87-5P
546163-88-6P 546163-89-7P 546163-90-0P 546163-91-1P 546163-92-2P
546163-93-3P 546163-94-4P 546163-95-5P 546163-96-6P 546163-97-7P
546163-98-8P 546163-99-9P 546164-00-5P 546164-01-6P 546164-02-7P
546164-03-8P 546164-04-9P 546164-05-0P 546164-06-1P 546164-07-2P
546164-08-3P 546164-09-4P 546164-10-7P 546164-11-8P 546164-12-9P
546164-13-0P 546164-14-1P 546164-15-2P 546164-16-3P 546164-17-4P
546164-18-5P 546164-19-6P 546164-20-9P 546164-21-0P 546164-22-1P
546164-23-2P 546164-24-3P 546164-25-4P 546164-26-5P 546164-27-6P
546164-28-7P 546164-29-8P 546164-30-1P 546164-31-2P 546164-32-3P
546164-33-4P 546164-34-5P 546164-35-6P 546164-36-7P 546164-37-8P
546164-38-9P 546164-39-0P 546164-40-3P 546164-41-4P 546164-42-5P
546164-43-6P 546164-44-7P 546164-45-8P 546164-46-9P 546164-47-0P
546164-48-1P 546164-49-2P 546164-50-5P 546164-51-6P 546164-52-7P
546164-53-8P 546164-54-9P 546164-55-0P 546164-56-1P 546164-57-2P
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546164-78-7P 546164-79-8P 546164-80-1P 546164-81-2P 546164-82-3P
546164-83-4P 546164-84-5P 546164-85-6P 546164-86-7P 546164-87-8P
546164-88-9P 546164-89-0P 546164-90-3P 546164-91-4P 546164-92-5P
546164-93-6P 546164-94-7P 546164-95-8P 546164-96-9P 546164-97-0P
546164-98-1P 546164-99-2P 546165-00-8P 546165-01-9P 546165-02-0P
546165-03-1P 546165-04-2P 546165-05-3P 546165-06-4P 546165-07-5P
546165-08-6P 546165-09-7P 546165-10-0P 546165-11-1P 546165-12-2P
546165-13-3P 546165-14-4P 546165-15-5P 546165-16-6P 546165-17-7P
546165-18-8P 546165-19-9P 546165-20-2P 546165-21-3P 546165-22-4P
546165-23-5P 546165-24-6P 546165-25-7P 546165-26-8P 546165-27-9P

546165-28-0P 546165-29-1P 546165-30-4P 546165-31-5P 546165-32-6P
546165-33-7P 546165-34-8P 546165-35-9P 546165-36-0P 546165-37-1P
546165-38-2P 546165-39-3P 546165-40-6P 546165-41-7P 546165-42-8P
546165-43-9P 546165-44-0P 546165-45-1P 546165-46-2P 546165-47-3P
546165-48-4P 546165-49-5P 546165-50-8P 546165-51-9P 546165-52-0P
546165-53-1P 546165-54-2P 546165-55-3P 546165-56-4P 546165-57-5P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(NCH ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 546165-58-6P 546165-59-7P 546165-60-0P 546165-61-1P 546165-62-2P
546165-63-3P 546165-64-4P 546165-65-5P 546165-66-6P 546165-67-7P
546165-68-8P 546165-69-9P 546165-70-2P 546165-71-3P 546165-72-4P
546165-73-5P 546165-74-6P 546165-75-7P 546165-76-8P 546165-77-9P
546165-78-0P 546165-79-1P 546165-80-4P 546165-81-5P 546165-82-6P
546165-83-7P 546165-84-8P 546165-85-9P 546165-86-0P 546165-87-1P
546165-88-2P 546165-89-3P 546165-90-6P 546165-91-7P 546165-92-8P
546165-93-9P 546165-94-0P 546165-95-1P 546165-96-2P 546165-97-3P
546165-98-4P 546165-99-5P 546166-00-1P 546166-01-2P 546166-02-3P
546166-03-4P 546166-04-5P 546166-05-6P 546166-06-7P 546166-07-8P
546166-08-9P 546166-09-0P 546166-10-3P 546166-11-4P 546166-12-5P
546166-13-6P 546166-14-7P 546166-15-8P 546166-16-9P 546166-17-0P
546166-18-1P 546166-19-2P 546166-20-5P 546166-21-6P 546166-22-7P
546166-23-8P 546166-24-9P 546166-25-0P 546166-26-1P 546166-27-2P
546166-28-3P 546166-29-4P 546166-30-7P 546166-31-8P 546166-32-9P
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546166-38-5P 546166-39-6P 546166-40-9P 546166-41-0P 546166-42-1P
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546166-48-7P 546166-49-8P 546166-50-1P 546166-51-2P 546166-52-3P
546166-53-4P 546166-54-5P 546166-55-6P 546166-56-7P 546166-57-8P
546166-58-9P 546166-59-0P 546166-60-3P 546166-61-4P 546166-62-5P
546166-63-6P 546166-64-7P 546166-65-8P 546166-66-9P 546166-67-0P
546166-68-1P 546166-69-2P 546166-70-5P 546166-71-6P 546166-72-7P
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546166-78-3P 546166-79-4P 546166-80-7P 546166-81-8P 546166-82-9P
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546166-88-5P 546166-89-6P 546166-90-9P 546166-91-0P 546166-92-1P
546166-93-2P 546166-94-3P 546166-95-4P 546166-96-5P 546166-97-6P
546166-98-7P 546166-99-8P 546167-00-4P 546167-01-5P 546167-02-6P
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546167-08-2P 546167-09-3P 546167-10-6P 546167-11-7P 546167-12-8P
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546167-18-4P 546167-19-5P 546167-20-8P 546167-21-9P 546167-22-0P
546167-23-1P 546167-24-2P 546167-25-3P 546167-26-4P 546167-27-5P
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546167-38-8P 546167-39-9P 546167-40-2P 546167-41-3P 546167-42-4P
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546167-58-2P 546167-59-3P 546167-60-6P 546167-61-7P 546167-62-8P
546167-63-9P 546167-64-0P 546167-65-1P 546167-66-2P 546167-67-3P
546167-68-4P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(NCH ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 546167-69-5P 546167-70-8P 546167-71-9P 546167-72-0P 546167-73-1P
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546167-79-7P 546167-80-0P 546167-81-1P 546167-82-2P 546167-83-3P
546167-84-4P 546167-85-5P 546167-86-6P 546167-87-7P 546167-88-8P

546167-89-9P 546167-90-2P 546167-91-3P 546167-92-4P 546167-93-5P
546167-94-6P 546167-95-7P 546167-96-8P 546167-97-9P 546167-98-0P
546167-99-1P 546168-00-7P 546168-01-8P 546168-02-9P 546168-03-0P
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546168-14-3P 546168-15-4P 546168-16-5P 546168-17-6P 546168-18-7P
546168-19-8P 546168-20-1P 546168-21-2P 546168-22-3P 546168-23-4P
546168-24-5P 546168-25-6P 546168-26-7P 546168-27-8P 546168-28-9P
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546168-59-6P 546168-60-9P 546168-61-0P 546168-62-1P 546168-63-2P
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546169-24-8P 546169-25-9P 546169-26-0P 546169-27-1P 546169-28-2P
546169-29-3P 546169-30-6P 546169-31-7P 546169-32-8P 546169-33-9P
546169-34-0P 546169-35-1P 546169-36-2P 546169-37-3P 546169-38-4P
546169-39-5P 546169-40-8P 546169-41-9P 546169-42-0P 546169-43-1P
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546169-49-7P 546169-50-0P 546169-51-1P 546169-52-2P 546169-53-3P
546169-54-4P 546169-55-5P 546169-56-6P 546169-57-7P 546169-58-8P
546169-59-9P 546169-60-2P 546169-61-3P 546169-62-4P 546169-63-5P
546169-64-6P 546169-65-7P 546169-66-8P 546169-67-9P 546169-68-0P
546169-69-1P 546169-70-4P 546169-71-5P 546169-72-6P 546169-73-7P
546169-74-8P 546169-75-9P 546169-76-0P 546169-77-1P 546169-78-2P
546169-79-3P 546169-80-6P 546169-81-7P 546169-82-8P 546169-83-9P
546169-84-0P 546169-85-1P 546169-86-2P 546169-87-3P 546169-88-4P
546169-89-5P 546169-90-8P 546169-91-9P 546169-92-0P 546169-93-1P
546169-94-2P 546169-95-3P 546169-96-4P 546169-97-5P 546169-98-6P
546169-99-7P 546170-00-7P 546170-01-8P 546170-02-9P 546170-03-0P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(Zinzyme ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 546170-04-1P 546170-05-2P 546170-06-3P 546170-07-4P 546170-08-5P
546170-09-6P 546170-10-9P 546170-11-0P 546170-12-1P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(Zinzyme ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 22537-22-0, Mg 2+, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cleavage carried out in presence of; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 546162-23-6P 546162-24-7P 546162-25-8P 546162-26-9P 546162-27-0P
546162-28-1P 546162-29-2P 546162-30-5P 546162-31-6P 546162-32-7P
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546162-38-3P 546162-39-4P 546162-40-7P 546162-41-8P 546162-42-9P
546162-43-0P 546162-44-1P 546162-45-2P 546162-46-3P 546162-47-4P
546162-48-5P 546162-49-6P 546162-50-9P 546162-51-0P 546162-52-1P
546162-53-2P 546162-54-3P 546162-55-4P 546162-56-5P 546162-57-6P
546162-58-7P 546162-59-8P 546162-60-1P 546162-61-2P 546162-62-3P
546162-63-4P 546162-64-5P 546162-65-6P 546162-66-7P 546162-67-8P
546162-68-9P 546162-69-0P 546162-70-3P 546162-71-4P 546162-72-5P
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546162-83-8P 546162-84-9P 546162-85-0P 546162-86-1P 546162-87-2P
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RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hammerhead ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 139808-75-6, GenBank M29273 149482-77-9, GenBank X61945 182112-52-3, GenBank X98085 233660-88-3, GenBank AF051335 390118-36-2, GenBank AF132048 390291-55-1, GenBank AJ251385 392111-54-5, GenBank AJ242961 392124-59-3, GenBank AJ251384 392205-86-6, GenBank AJ251383
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic use)

IT 317312-92-8, GenBank AF283463 385337-62-2, GenBank AB020693
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 9055-11-2, Endonuclease
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(motif, ribozyme containing; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 71427-00-4, RNAse P
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(motif, ribozyme containing; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT 546152-00-5 546152-01-6 546152-02-7 546152-03-8 546152-04-9
546152-05-0 546152-06-1 546152-07-2 546152-08-3 546152-09-4
546152-10-7 546152-11-8 546152-12-9 546152-13-0 546152-14-1
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546152-95-8 546152-96-9 546152-97-0 546152-98-1 546152-99-2
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(nucleotide sequence, complimentary to antisense oligonucleotide and ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence, complimentary to antisense oligonucleotide and ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence, complimentary to antisense oligonucleotide and ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence, complimentary to antisense oligonucleotide and ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence, complimentary to antisense oligonucleotide and ribozyme; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT **546114-10-7** 546180-13-6 546180-14-7 546180-15-8
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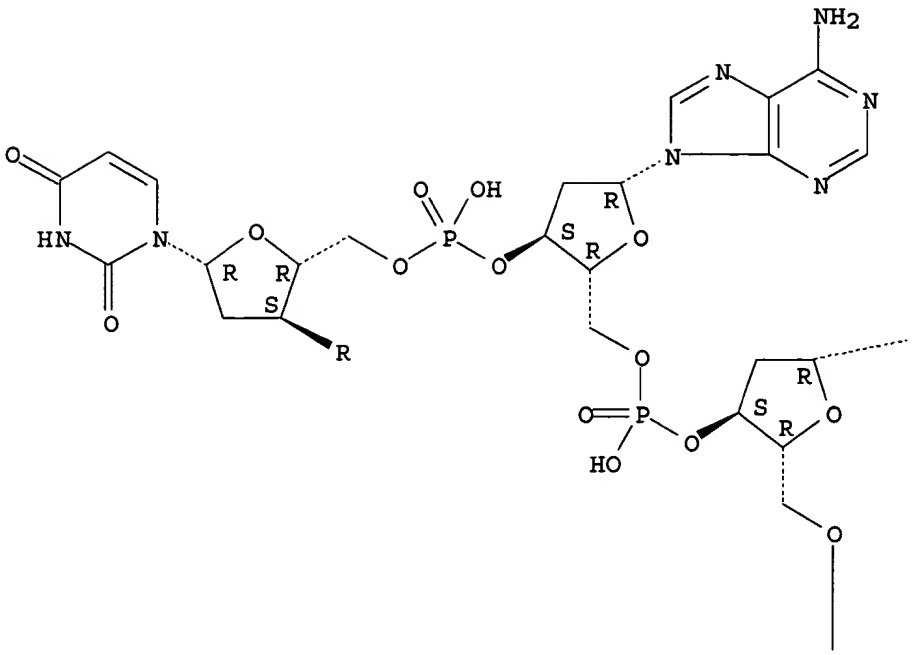
546180-21-6
RL: PRP (Properties)
(unclaimed sequence; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

IT **546114-10-7**
RL: PRP (Properties)
(unclaimed sequence; modulation of NOGO and NOGO receptor gene expression using antisense and enzymic nucleic acid-based technologies and therapeutic uses)

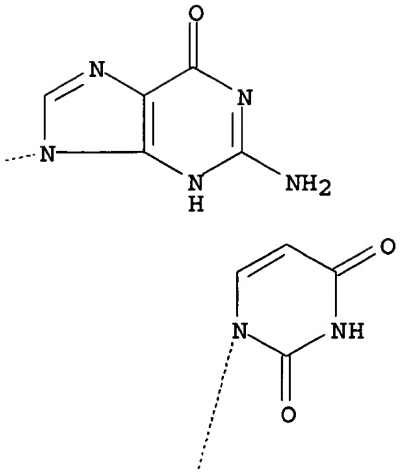
RN 546114-10-7 HCAPLUS
CN Guanosine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

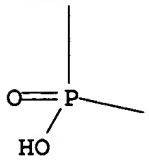
PAGE 1-A

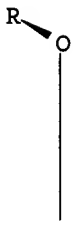


PAGE 1-B



PAGE 2-A





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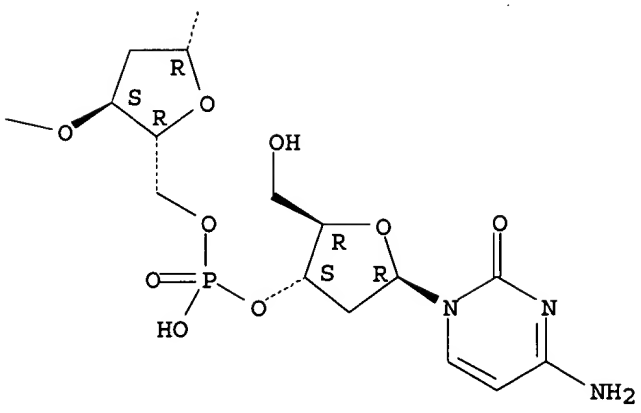

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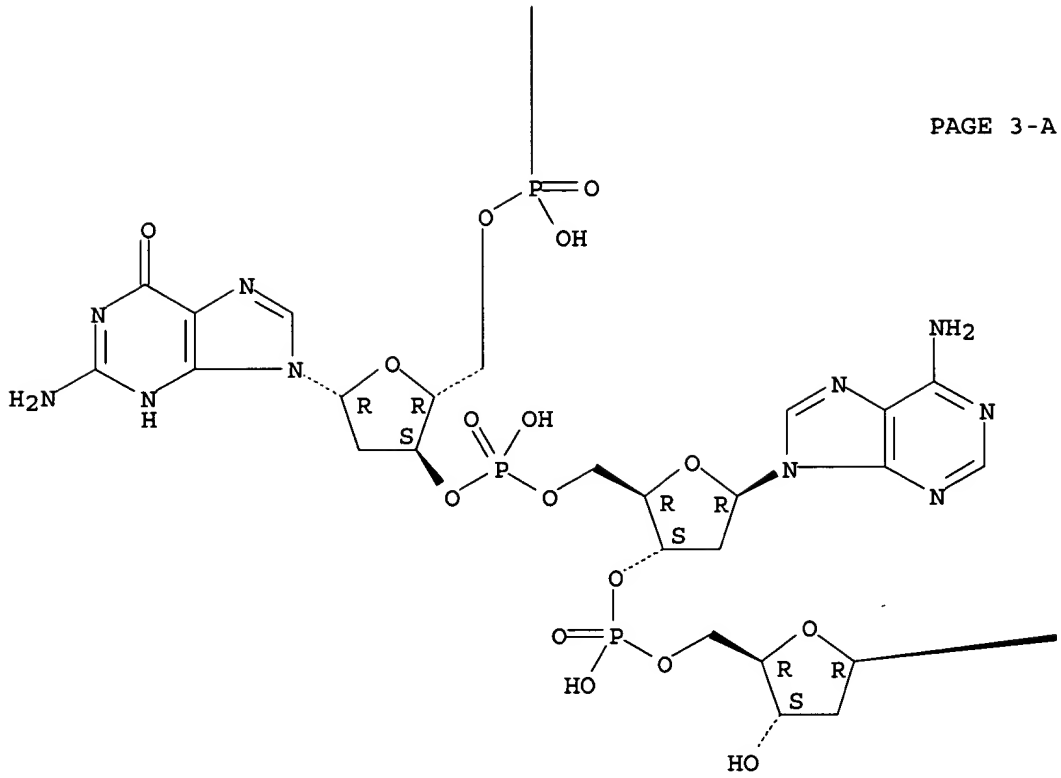

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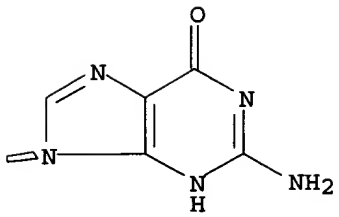

L47 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:669607 HCAPLUS
DN 137:211893
ED Entered STN: 05 Sep 2002
TI Nucleosides comprising polydentate ligands
IN Meade, Thomas J.; Welch, Thomas W.

PA Molecular Dynamics, Inc., USA
SO U.S., 40 pp., Cont.-in-part of U.S. Ser. No. 659,987, abandoned.
CODEN: USXXAM
DT **Patent**
LA English
IC ICM C12Q001-68
ICS C07H021-04; C07H021-02
NCL 435006000
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 6, 33
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6444423	B1	20020903	US 1998-191785	19981113 <--
PRAI US 1996-475051	A1	19960607 <--		
US 1996-659987	B2	19960607 <--		

AB The present invention provides for the selective covalent modification of nucleic acids with redox active moieties such as transition metal complexes. Electron donor and electron acceptor moieties are covalently bound to the ribose-phosphate backbone of a nucleic acid at predetd. positions. The resulting complexes represent a series of new derivs. that are bimol. templates capable of transferring electrons over very large distances at extremely fast rates. These complexes possess unique structural features which enable the use of an entirely new class of bioconductors and photoactive probes.

ST nucleoside polydentate ligand transition metal electron donor acceptor hybridization

IT Bond
(covalent; nucleosides comprising polydentate ligands)

IT Ligands
RL: PRP (Properties)
(multidentate; nucleosides comprising polydentate ligands)

IT Chelation
Electrodes
Electron acceptors
Electron donors
Nucleic acid hybridization
PCR (polymerase chain reaction)
(nucleosides comprising polydentate ligands)

IT Nucleic acids
RL: ANT (Analyte); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(nucleosides comprising polydentate ligands)

IT Nucleosides, properties
RL: PRP (Properties)
(nucleosides comprising polydentate ligands)

IT Transition metal complexes
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(with nucleic acids; nucleosides comprising polydentate ligands)

IT 50-69-1, Ribose
RL: PRP (Properties)
(nucleoside; nucleosides comprising polydentate ligands)

IT **200565-68-0P** 454180-69-9P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(nucleosides comprising polydentate ligands)

IT **170572-25-5P** 170572-26-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(nucleosides comprising polydentate ligands)

RE.CNT 168 THERE ARE 168 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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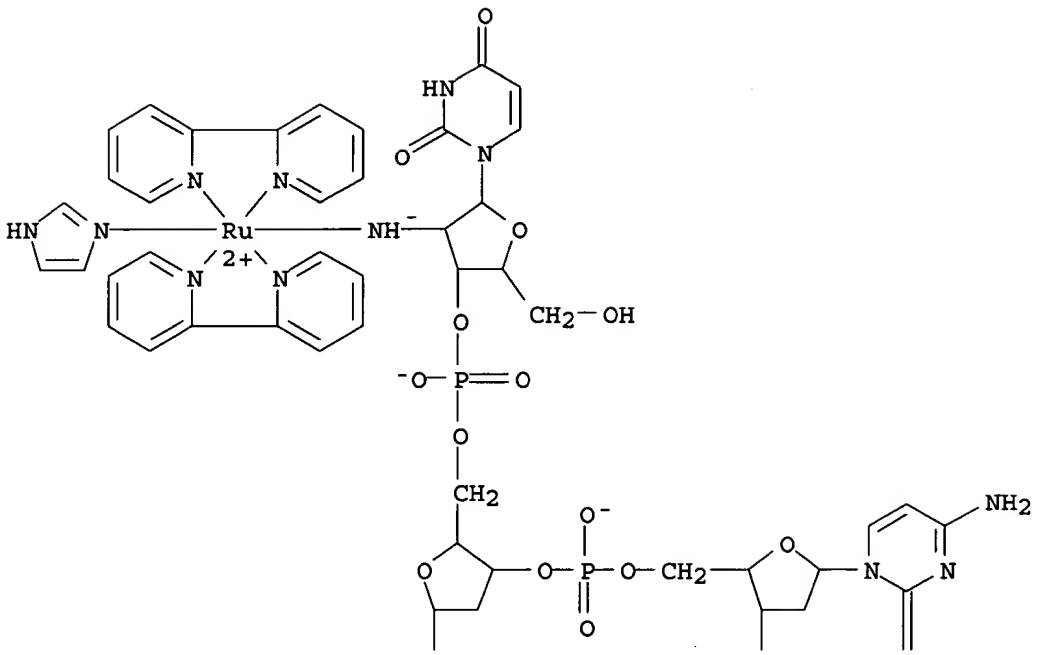
IT **200565-68-0P**
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(nucleosides comprising polydentate ligands)

RN 200565-68-0 HCAPLUS

CN Ruthenate(6-), [2'-(amino-κN)-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenosinato(8-)]bis(2,2'-bipyridine-κN1,κN1')(1H-imidazole-κN3)-, heptahydrogen, (OC-6-23)- (9CI) (CA INDEX NAME)

PAGE 1-A



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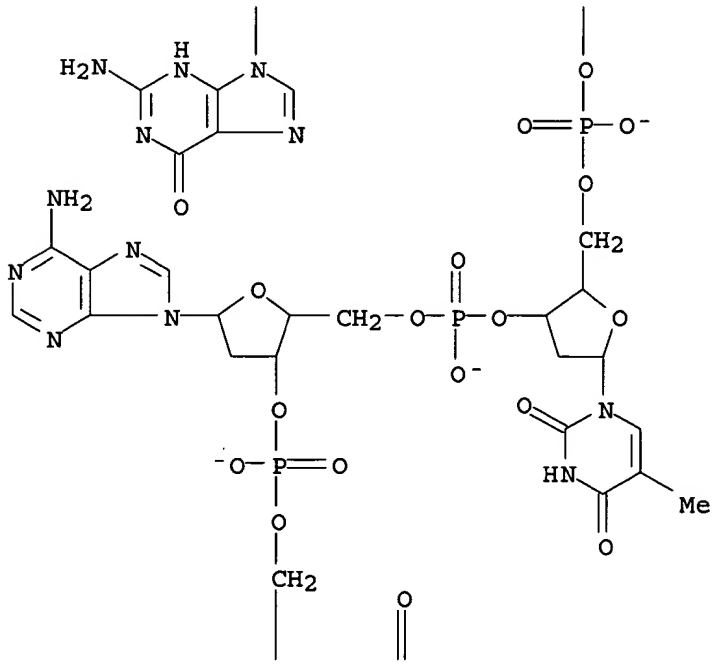

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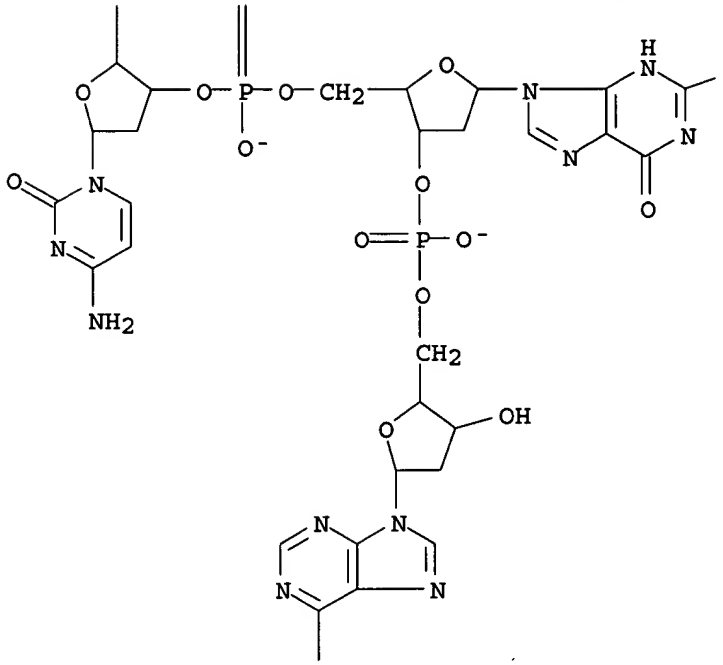

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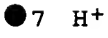
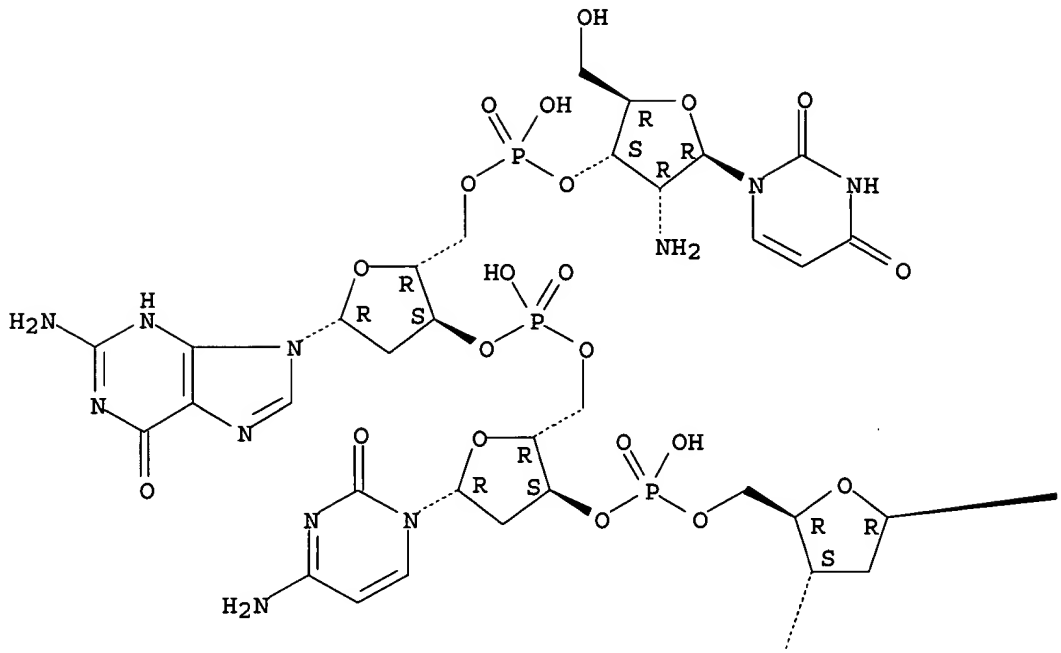
PAGE 4-A



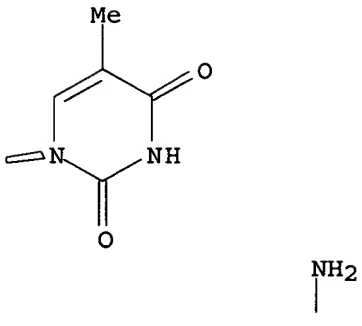
IT **170572-25-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(nucleosides comprising polydentate ligands)
RN 170572-25-5 HCAPLUS
CN Adenosine, 2'-amino-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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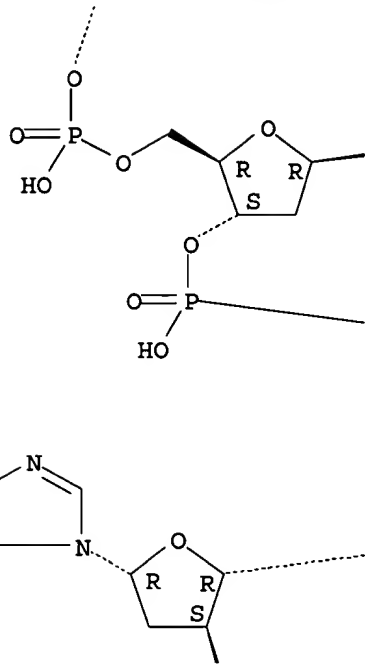

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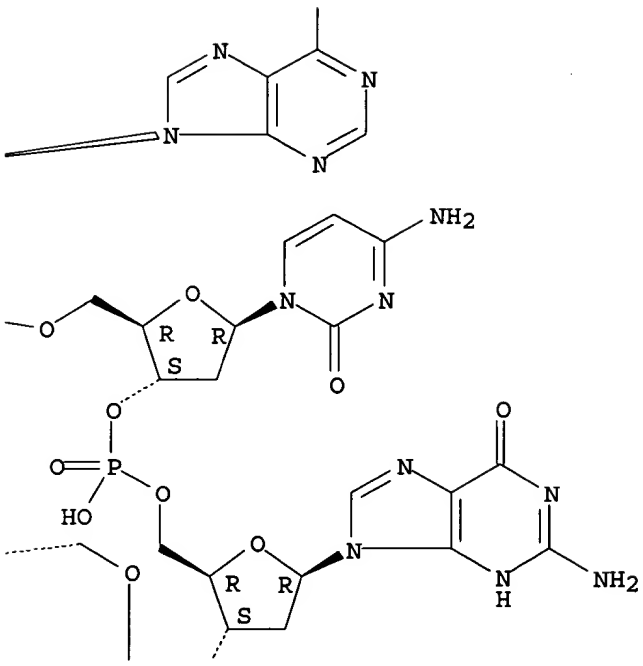

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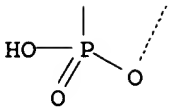
PAGE 3-B



L47 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:781076 HCAPLUS
DN 135:340281
ED Entered STN: 26 Oct 2001
TI Gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element
PA Genmethrax, Inc., USA; Board of Trustees of the Leland Stanford Junior University
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM C12N
CC 3-4 (Biochemical Genetics)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001079441	A2	20011025	WO 2001-US10531	20010330 <--
	WO 2001079441	A3	20020228		
	WO 2001079441	C2	20021227		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	AU 2001051208	A5	20011030	AU 2001-51208	20010330 <--
PRAI	US 2000-196749P	P	20000412 <--		
	US 2000-214148P	P	20000626 <--		
	WO 2001-US10531	W	20010330		

AB The invention provides methods and compns. related to polynucleotides that induce methylation at a target nucleotide sequence within a cell. The m5C methylated polynucleotides (GIT) include an oligonucleotide imprinting element (IE) that has a first strand and a second strand complementary to the first strand. The first strand can include at least one m5CG sequence which is paired with an unmethylated CG sequence on the second strand. Alternatively, the first strand can include at least one m5CN1G sequence paired with an unmethylated CN2G sequence on said second strand, wherein N1 is any nucleotide, and N2 is a nucleotide that pairs with N1. The m5C methylated polynucleotides also include a single-stranded oligonucleotide guiding element (GE) that is complementary to a target nucleotide sequence. The guiding element includes at least one m5CG sequence m5CG or at least one 5CN3G sequence, wherein N3 is any nucleotide. The imprinting element and guiding element are operably linked such that the polynucleotide is capable of inducing methylation at the target nucleotide

sequence. The oligonucleotide HepKex which targets the most proximal promoter of IGf2 can reach the nuclei of tested cell line and inhibit expression of IGf2 in animal and normal and cancer cell lines. The invention showed that oligonucleotide HepKex has anti-tumor activity in nude mice. The invention demonstrated that the GE fragment of a GIT significantly enhances the inhibition efficiency of the GIT.

ST gene inactivation DNA methylation m5C methylated oligonucleotide; antitumor m5C methylated oligonucleotide

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(IGF2, inactivation of, by methylation; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT Gene
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(inactivation of, by methylation; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT Animal cell
Plant cell
Prokaryote
(induction of methylation in; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT Astrocyte
Fibroblast
(inhibition IGf2 expression in; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT Drug delivery systems
(liposomes, m5C methylated oligonucleotide encapsulated in; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT Antitumor agents
(m5C methylated oligonucleotide as; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT Oligonucleotides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(m5C methylated; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT DNA
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(methylation; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(oncogene, inactivation of, by methylation; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT Genetic element
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(regulatory, methylation of; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting

element and a guiding element)

IT 838-07-3, 5-Methyldeoxycytidine
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(at end of oligonucleotide; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT 2462-63-7, DOPE 4235-95-4, DOPC 104162-48-3, DOTMA
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(liposome encapsulating m5C methylated oligonucleotide made of; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT 369430-09-1 369430-10-4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sequence of guiding element; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT **369361-45-5** 369430-08-0
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sequence of imprinting element; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT 370968-54-0 370968-55-1 370968-56-2 370968-57-3 370968-58-4
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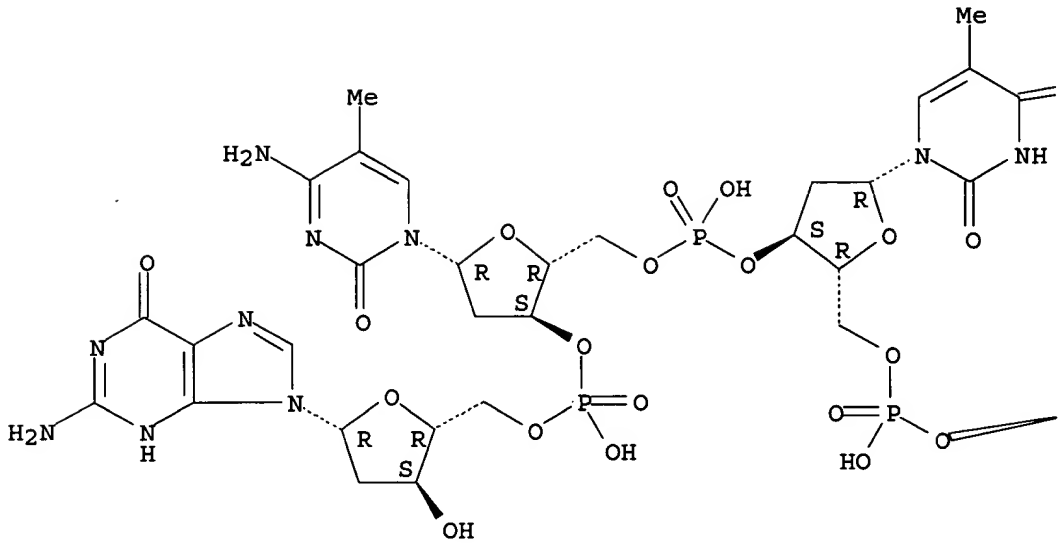
370968-64-2 370968-65-3 370968-66-4 370968-67-5 370968-68-6
370968-69-7 370968-70-0 370968-71-1 370968-72-2 370968-73-3
370968-74-4 370968-75-5 370968-76-6 370968-77-7 370968-78-8
370968-79-9 370968-80-2 370968-81-3 370968-82-4 370968-83-5
370968-84-6 370968-85-7 370968-86-8 370968-87-9 370968-88-0
370968-89-1 370968-90-4 370968-91-5 370968-92-6 370968-93-7
370968-94-8 370968-95-9 370968-96-0 370968-97-1 370968-98-2
370968-99-3 370969-00-9 370969-01-0 370969-02-1 370969-03-2
370969-04-3
RL: PRP (Properties)
(unclaimed sequence; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

IT **369361-45-5**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sequence of imprinting element; gene inactivation by targeted DNA methylation using a m5C methylated oligonucleotide containing an imprinting element and a guiding element)

RN 369361-45-5 HCAPLUS
CN Guanosine, 2'-deoxy-5-methylcytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxy-5-methylcytidylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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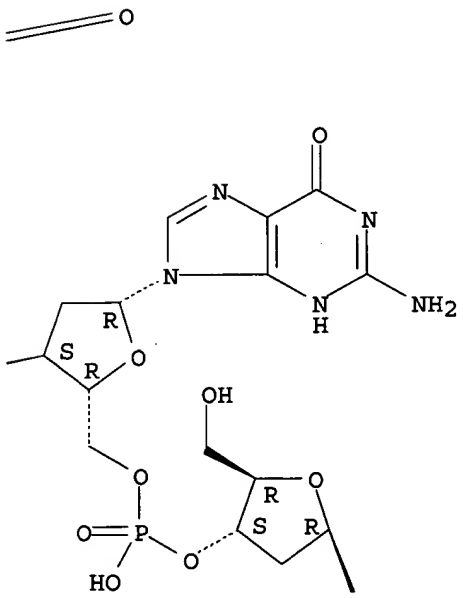

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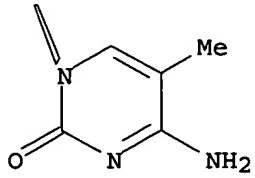


L47 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:565177 HCAPLUS
DN 135:148223
ED Entered STN: 03 Aug 2001
TI Use of a hairpin loop structure-forming Cocksfoot mottle virus 5'UTR leader sequence for enhancing protein expression in plants
IN Teeri, Teemu; Aspegren, Arno Kristian; Maekinen, Kristiina Maria; Saarma, Mart
PA Licentia Ltd., Finland
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM C12N
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 11
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001055298	A2	20010802	WO 2001-FI67	20010126 <--
	WO 2001055298	A3	20020110		
	WO 2001055298	C1	20021024		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 2001030289	A5	20010807	AU 2001-30289	20010126 <--
	EP 1250458	A2	20021023	EP 2001-902457	20010126 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003523210	T2	20030805	JP 2001-561133	20010126 <--
	US 2003167520	A1	20030904	US 2002-182257	20021101 <--
PRAI	FI 2000-182	A	20000128 <--		
	WO 2001-FI67	W	20010126		

AB The present invention is related to the use of nucleotide sequences substantially similar to the cDNA sequence (SEQ ID NO:2:) obtainable from the leader sequence (SEQ ID NO:1:) of the Cocksfoot mottle virus (CfMV) which is capable of enhancing the expression of proteins, especially in plants such as cereals. Also disclosed is a method for producing potential enhancer elements by selecting 5'UTRs having a capacity of producing hairpin loop structures and preparing substantially similar nucleic acid sequences. In addition a method for enhancing the expression in plants as well as the properties characteristic for the nucleotide sequence which are responsible for the enhanced expression. Enhanced expression of the reporter genes uidA and luc by 5'UTRs of RNAs of three dicot specific viruses (AMV5', TMVQ and PVXacB) and the cocksfoot mottle virus RNA leader (CfIVE) in tobacco protoplasts was observed In barley cells, however, only CfMVE appeared to have a stimulatory effect on uidA and luc expression.
ST hairpin loop Cocksfoot mottle virus leader sequence enhancer plant
IT Genetic element
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(5'UTR; use of a hairpin loop structure-forming Cocksfoot mottle virus 5'UTR leader sequence for enhancing protein expression in plants)

IT Conformation
(hairpin loop; use of a hairpin loop structure-forming Cocksfoot mottle virus 5'UTR leader sequence for enhancing protein expression in plants)
IT Genetic element
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(leader sequence; use of a hairpin loop structure-forming Cocksfoot mottle virus 5'UTR leader sequence for enhancing protein expression in plants)
IT Barley
Cereal (grain)
Cocksfoot mottle virus
Corn
Dicotyledon (Magnoliopsida)
Monocotyledon (Liliopsida)
Oat
Plant (Embryophyta)
Plant virus
Rice (Oryza sativa)
Sobemovirus
Tobacco
Translation, genetic
Wheat
cDNA sequences
mRNA sequences
(use of a hairpin loop structure-forming Cocksfoot mottle virus 5'UTR leader sequence for enhancing protein expression in plants)
IT Enhancer (genetic element)
Viral RNA
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(use of a hairpin loop structure-forming Cocksfoot mottle virus 5'UTR leader sequence for enhancing protein expression in plants)
IT 352404-97-8 352404-98-9
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(nucleotide sequence; use of a hairpin loop structure-forming Cocksfoot mottle virus 5'UTR leader sequence for enhancing protein expression in plants)
IT 299493-42-8 352407-47-7 352407-48-8 352407-49-9 352407-50-2 352407-51-3, 7: PN: WO0155298 SEQID: 7 unclaimed DNA 352407-52-4, 8: PN: WO0155298 SEQID: 8 unclaimed RNA 352407-53-5, 9: PN: WO0155298 SEQID: 9 unclaimed DNA 352407-54-6 352407-55-7 352407-56-8 352407-57-9 352407-58-0 352407-59-1 352407-60-4 352407-61-5 352407-62-6 352407-63-7 352407-92-2
RL: PRP (Properties)
(unclaimed nucleotide sequence; use of a hairpin loop structure-forming Cocksfoot mottle virus 5'UTR leader sequence for enhancing protein expression in plants)
IT 352359-57-0 **352359-58-1** 352359-59-2
RL: PRP (Properties)
(unclaimed sequence; use of a hairpin loop structure-forming Cocksfoot mottle virus 5'UTR leader sequence for enhancing protein expression in plants)
IT **352359-58-1**
RL: PRP (Properties)
(unclaimed sequence; use of a hairpin loop structure-forming Cocksfoot

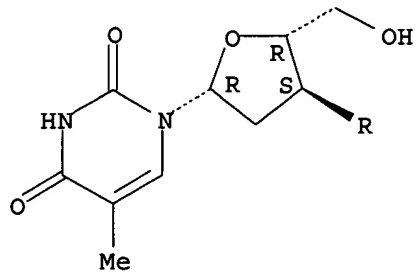
mottle virus 5'UTR leader sequence for enhancing protein expression in plants)

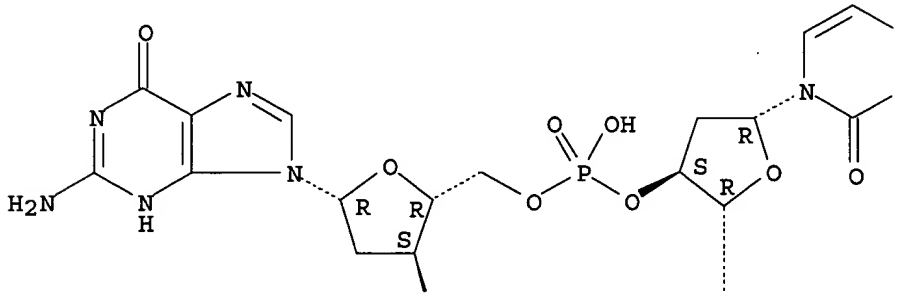
RN 352359-58-1 HCAPLUS

CN Guanosine, thymidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

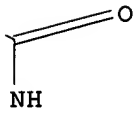
Absolute stereochemistry.

PAGE 1-A

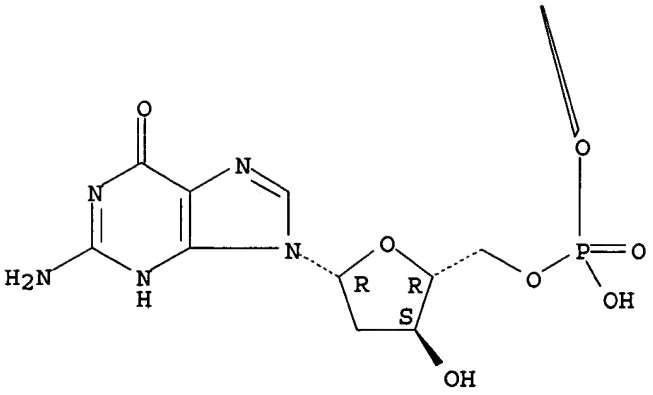


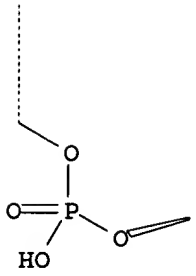


PAGE 1-B



PAGE 2-A





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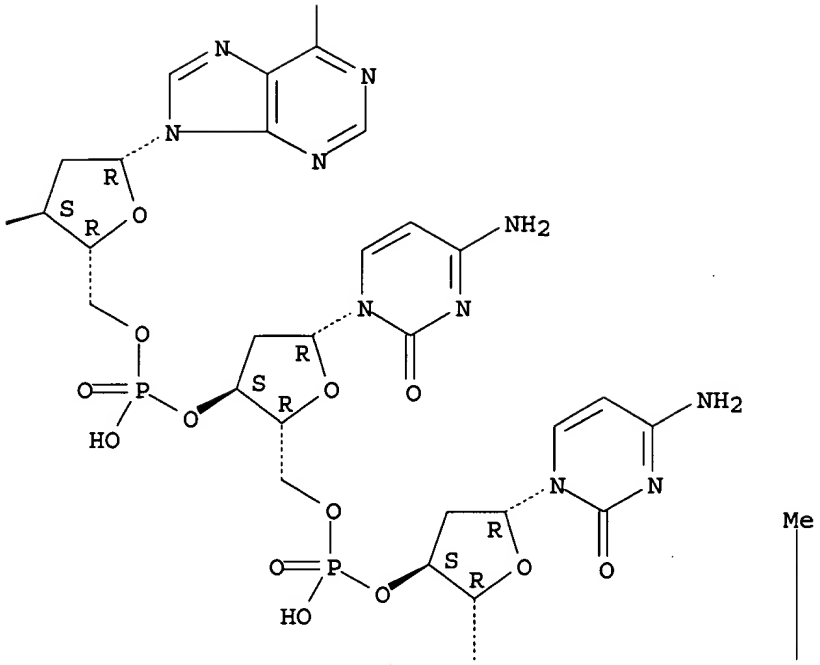

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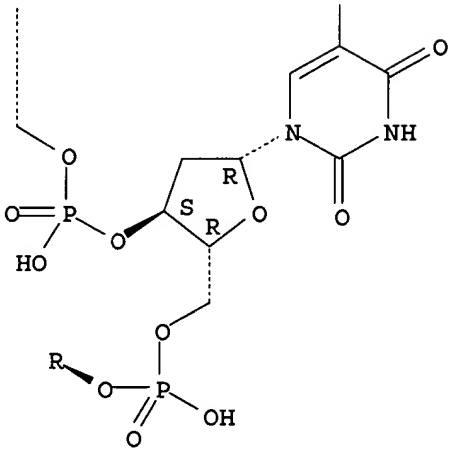

L47 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:247187 HCAPLUS
DN 134:275762
ED Entered STN: 06 Apr 2001
TI Immunostimulatory nucleic acids
IN Krieg, Arthur M.; Schetter, Christian; Vollmer, Jorg
PA University of Iowa Research Foundation, USA; Coley Pharmaceutical G.m.b.H.
SO PCT Int. Appl., 338 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM A61K031-7088
ICS A61K039-39; A61K048-00; A61K035-12; A23L001-30; A61P037-04;

A61K031-7088; A61K031-00; A61K031-7088; A61K038-00; A61K031-7088; A61K039-395

CC 1-7 (Pharmacology)
Section cross-reference(s): 15, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001022972	A2	20010405	WO 2000-US26383	20000925 <--
	WO 2001022972	A3	20020117		
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1221955	A2	20020717	EP 2000-965433	20000925 <--
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	BR 2000014236	A	20021015	BR 2000-14236	20000925 <--
	TR 200200797	T2	20021021	TR 2002-20020079720000925 <--	
	JP 2003510282	T2	20030318	JP 2001-526182	20000925 <--
	EE 200200158	A	20030616	EE 2002-158	20000925 <--
	NZ 517929	A	20040227	NZ 2000-517929	20000925 <--
	ZA 2002001963	A	20030310	ZA 2002-1963	20020308 <--
	BG 106538	A	20021229	BG 2002-106538	20020321 <--
	NO 2002001453	A	20020527	NO 2002-1453	20020322 <--
	US 2003212026	A1	20031113	US 2002-314578	20021209 <--
PRAI	US 1999-156113P	P	19990925 <--		
	US 1999-156135P	P	19990927 <--		
	US 2000-227436P	P	20000823 <--		
	US 2000-669187	A1	20000925 <--		
	WO 2000-US26383	W	20000925 <--		

OS MARPAT 134:275762

AB The invention relates to immunostimulatory nucleic acid compns. and methods of using the compns. The T-rich nucleic acids contain poly T sequences and/or have greater than 25% T nucleotide residues. The TG nucleic acids have TG dinucleotides. The C-rich nucleic acids have at least one poly-C region and/or greater than 50% C nucleotides. These immunostimulatory nucleic acids function in a similar manner to nucleic acids containing CpG motifs. The invention also encompasses preferred CpG nucleic acids.

ST immunostimulant nucleic acid

IT Cell proliferation
(B cell; immunostimulatory nucleic acids)

IT Genetic element
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(CpG motif; immunostimulatory nucleic acids)

IT Antitumor agents
(Hodgkin's disease inhibitors; immunostimulatory nucleic acids)

IT Immunostimulants
(adjuvants; immunostimulatory nucleic acids)

IT Cytotoxicity
(antigen-dependent cellular cytotoxicity; immunostimulatory nucleic acids)

IT Fungi
(antigen; immunostimulatory nucleic acids)

IT Peptides, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES

(Uses)
(antigenic; immunostimulatory nucleic acids)
IT Bacteria (Eubacteria)
(bacterial antigen; immunostimulatory nucleic acids)
IT Antitumor agents
(biliary tract; immunostimulatory nucleic acids)
IT Antitumor agents
(bone; immunostimulatory nucleic acids)
IT Antitumor agents
(brain; immunostimulatory nucleic acids)
IT Antitumor agents
(carcinoma; immunostimulatory nucleic acids)
IT Immune system
(cell; immunostimulatory nucleic acids)
IT Antitumor agents
(central nervous system; immunostimulatory nucleic acids)
IT Nervous system
(central, neoplasm, inhibitors; immunostimulatory nucleic acids)
IT Uterus, neoplasm
(cervix, inhibitors; immunostimulatory nucleic acids)
IT Antitumor agents
(cervix; immunostimulatory nucleic acids)
IT Chorion
(choriocarcinoma, inhibitors; immunostimulatory nucleic acids)
IT Antitumor agents
(choriocarcinoma; immunostimulatory nucleic acids)
IT Intestine, neoplasm
(colon, inhibitors; immunostimulatory nucleic acids)
IT Antitumor agents
(colon; immunostimulatory nucleic acids)
IT Antitumor agents
(connective tissue tumor inhibitors; immunostimulatory nucleic acids)
IT Uterus, neoplasm
(endometrium, inhibitors; immunostimulatory nucleic acids)
IT Antitumor agents
(endometrium; immunostimulatory nucleic acids)
IT Antitumor agents
(esophagus; immunostimulatory nucleic acids)
IT Antitumor agents
(eye; immunostimulatory nucleic acids)
IT Antigens
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(hepatitis B surface; immunostimulatory nucleic acids)
IT Liver, neoplasm
(hepatoma, inhibitors; immunostimulatory nucleic acids)
IT Antitumor agents
(hepatoma; immunostimulatory nucleic acids)
IT Allergy inhibitors
Anti-infective agents
Antiasthmatics
Antibacterial agents
Antimicrobial agents
Antitumor agents
Antiviral agents
B cell (lymphocyte)
Campylobacter
Cat (Felis catus)
Cattle
Cell proliferation
Chemotherapy
Chicken (Gallus domesticus)
Clostridium

Dendritic cell
Dog (Canis familiaris)
Drug delivery systems
Endosome
Escherichia coli
Fish
Fungicides
Genetic vectors
Goat
Haemophilus
Herpesviridae
Horse (Equus caballus)
Immunostimulants
Immunotherapy
Leukocyte
Monkey
Monocyte
Mononuclear cell (leukocyte)
Orthomyxoviridae
Parasiticides
Retroviridae
Sheep
Staphylococcus
Swine
Toxoplasma
(immunostimulatory nucleic acids)

IT Antibodies
Antigens
Oligonucleotides
Phosphorothioate oligonucleotides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(immunostimulatory nucleic acids)

IT Pyrimidine bases
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(immunostimulatory nucleic acids)

IT Interleukin 12
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(immunostimulatory nucleic acids)

IT Interleukin 6
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(immunostimulatory nucleic acids)

IT Tumor necrosis factors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(immunostimulatory nucleic acids)

IT Bone, neoplasm
Brain, neoplasm
Eye, neoplasm
Hodgkin's disease
Kidney, neoplasm
Lung, neoplasm
Ovary, neoplasm
Pancreas, neoplasm
Skin, neoplasm
Stomach, neoplasm
Testis, neoplasm
Thyroid gland, neoplasm
(inhibitors; immunostimulatory nucleic acids)

IT Antitumor agents
(intraepithelial cancer; immunostimulatory nucleic acids)
IT Antitumor agents
(kidney; immunostimulatory nucleic acids)
IT Antitumor agents
(larynx tumor inhibitors; immunostimulatory nucleic acids)
IT Antitumor agents
(lung non-small-cell carcinoma; immunostimulatory nucleic acids)
IT Antitumor agents
(lung small-cell carcinoma; immunostimulatory nucleic acids)
IT Antitumor agents
(lung; immunostimulatory nucleic acids)
IT Antitumor agents
(lymphoma; immunostimulatory nucleic acids)
IT Antitumor agents
(mammary gland; immunostimulatory nucleic acids)
IT Antitumor agents
(melanoma; immunostimulatory nucleic acids)
IT Drug delivery systems
(microparticles; immunostimulatory nucleic acids)
IT Antitumor agents
(mouth, and oral cavity; immunostimulatory nucleic acids)
IT Drug delivery systems
(mucosal; immunostimulatory nucleic acids)
IT Drug delivery systems
(nasal; immunostimulatory nucleic acids)
IT Lymphocyte
(natural killer cell; immunostimulatory nucleic acids)
IT T cell (lymphocyte)
(natural killer; immunostimulatory nucleic acids)
IT Mouth
(neoplasm, inhibitors, and oral cavity; immunostimulatory nucleic acids)
IT Biliary tract
Esophagus
Mammary gland
Prostate gland
(neoplasm, inhibitors; immunostimulatory nucleic acids)
IT Nerve, neoplasm
(neuroblastoma, inhibitors; immunostimulatory nucleic acids)
IT Antitumor agents
(neuroblastoma; immunostimulatory nucleic acids)
IT Lung, neoplasm
(non-small-cell carcinoma, inhibitors; immunostimulatory nucleic acids)
IT Drug delivery systems
(ophthalmic; immunostimulatory nucleic acids)
IT Drug delivery systems
(oral; immunostimulatory nucleic acids)
IT Antitumor agents
(ovary; immunostimulatory nucleic acids)
IT Antitumor agents
(pancreas; immunostimulatory nucleic acids)
IT Parasite
(parasitic antigen; immunostimulatory nucleic acids)
IT B cell (lymphocyte)
(proliferation; immunostimulatory nucleic acids)
IT Antitumor agents
(prostate gland; immunostimulatory nucleic acids)
IT Drug delivery systems
(rectal; immunostimulatory nucleic acids)
IT Intestine, neoplasm
(rectum, inhibitors; immunostimulatory nucleic acids)
IT Antitumor agents

(rectum; immunostimulatory nucleic acids)
IT Antitumor agents
(sarcoma; immunostimulatory nucleic acids)
IT Antitumor agents
(skin; immunostimulatory nucleic acids)
IT Lung, neoplasm
(small-cell carcinoma, inhibitors; immunostimulatory nucleic acids)
IT Antitumor agents
(stomach; immunostimulatory nucleic acids)
IT Diet
(supplements; immunostimulatory nucleic acids)
IT Drug delivery systems
(sustained-release; immunostimulatory nucleic acids)
IT Antitumor agents
(testis; immunostimulatory nucleic acids)
IT Antitumor agents
(thyroid; immunostimulatory nucleic acids)
IT Connective tissue
Larynx
(tumor inhibitors; immunostimulatory nucleic acids)
IT Antigens
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tumor-associated; immunostimulatory nucleic acids)
IT Vaccines
(tumor; immunostimulatory nucleic acids)
IT Antitumor agents
(vaccines; immunostimulatory nucleic acids)
IT Drug delivery systems
(vaginal; immunostimulatory nucleic acids)
IT Virus
(viral antigen; immunostimulatory nucleic acids)
IT Interferons
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(γ; immunostimulatory nucleic acids)
IT 73989-02-3D, 3'-labeled with FITC 73989-02-3D, phosphorothioate-linked and 3'-biotinylated 77064-59-6 81742-55-4 83381-52-6 86418-05-5 89947-10-4 89962-57-2 89962-59-4 90327-46-1 98723-79-6 104909-25-3 108421-74-5 110616-00-7 114452-28-7 115427-46-8 115427-87-7 141185-27-5 143304-96-5 144112-57-2 146086-63-7 148998-92-9 154805-41-1 157391-45-2 158768-60-6 160614-29-9 162165-69-7 162630-53-7 165446-73-1 165446-74-2 167362-20-1 168117-22-4 168117-49-5 171603-06-8 172830-96-5 172830-97-6 173363-21-8 175896-65-8 175896-66-9 175896-68-1 175896-68-1D, 5'-biotinylated 175896-70-5 175896-71-6 175896-71-6D, 5'-biotinylated 175896-72-7 175896-73-8 175896-73-8D, 5'-biotinylated 175896-74-9 175896-75-0 175896-76-1 175896-77-2 175962-04-6 176160-40-0 176160-41-1 176160-42-2 176160-45-5 176160-46-6 176160-47-7 176160-48-8 178098-02-7 181988-70-5, 6: PN: WO0004034 SEQID: 6 unclaimed DNA 184379-90-6 184379-92-8 184379-93-9 186162-52-7 189356-60-3 195826-72-3 196224-80-3 196224-81-4 199810-72-5 199810-73-6 200961-06-4 206654-99-1 207496-41-1 207496-41-1D, 5'-biotinylated 207496-41-1D, 5'-labeled with FITC 207496-42-2 207496-43-3 207496-44-4 207496-45-5 207496-46-6 207496-47-7 207496-48-8 207496-49-9 207622-71-7 207622-73-9 207622-74-0 207622-75-1 207622-77-3 207622-78-4 207622-79-5 207622-80-8 207622-81-9 207622-82-0 207622-83-1 207622-84-2 207622-85-3 207622-88-6 207622-91-1 207623-04-9 207623-29-8 207751-19-7 207751-21-1 207751-21-1D, 3'-biotinylated 207751-23-3 207751-24-4 208198-16-7 208472-92-8 212706-73-5 212706-76-8 212706-77-9 213323-96-7 245356-68-7 245356-68-7D,

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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(immunostimulatory nucleic acids)

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331874-87-4 331874-88-5 331874-89-6 331874-90-9 331874-91-0
331874-92-1 331874-93-2D, 5'-biotinylated 331874-94-3 331874-95-4
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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(immunostimulatory nucleic acids)

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331878-28-5 331878-29-6 331878-30-9D, 3'-labeled with FITC
331878-31-0D, 3'-biotinylated 331878-32-1 331878-33-2 331878-34-3
331878-35-4 331878-36-5 331878-37-6 331878-38-7 331878-39-8
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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(immunostimulatory nucleic acids)

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331995-19-8D, 3'-biotinylated 331995-20-1 331995-21-2 331995-22-3
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(immunostimulatory nucleic acids)

IT 65-71-4, Thymine
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(immunostimulatory nucleic acids)

IT 2476-57-5 4251-20-1 15178-66-2 331720-36-6 331730-36-0
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331730-56-4 331730-57-5 331730-58-6 331730-59-7 331730-61-1
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RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP

(Properties); BIOL (Biological study); OCCU (Occurrence)
(immunostimulatory nucleic acids)

IT 147339-65-9 171602-65-6 175896-67-0 181032-24-6 186676-19-7
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331881-61-9 331881-62-0 331881-63-1 331881-64-2 331881-65-3
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332000-10-9 332000-11-0 332000-12-1
RL: PRP (Properties)
(unclaimed nucleotide sequence; immunostimulatory nucleic acids)

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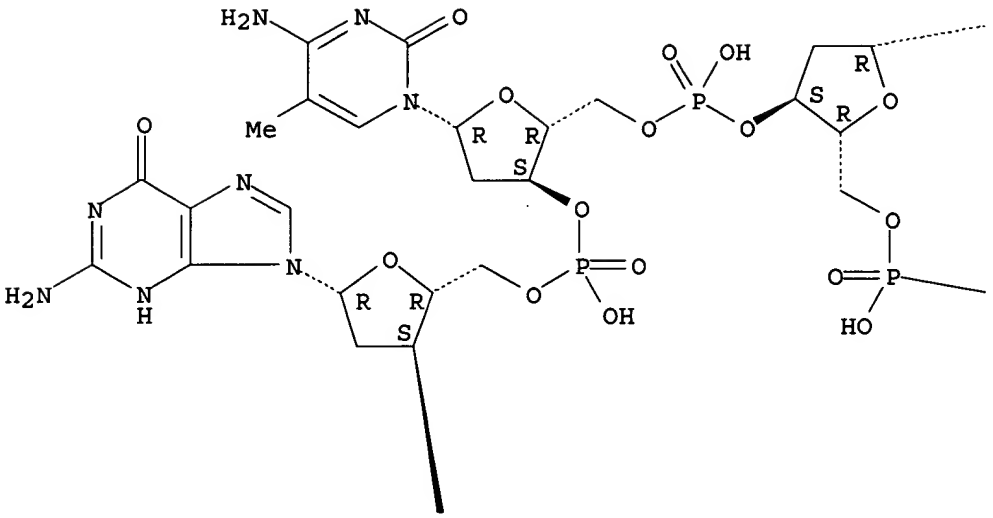
331871-06-8 331871-07-9 331872-01-6 331872-03-8
RL: PRP (Properties)
(unclaimed sequence; immunostimulatory nucleic acids)

IT **331871-83-1 331871-87-5**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(immunostimulatory nucleic acids)

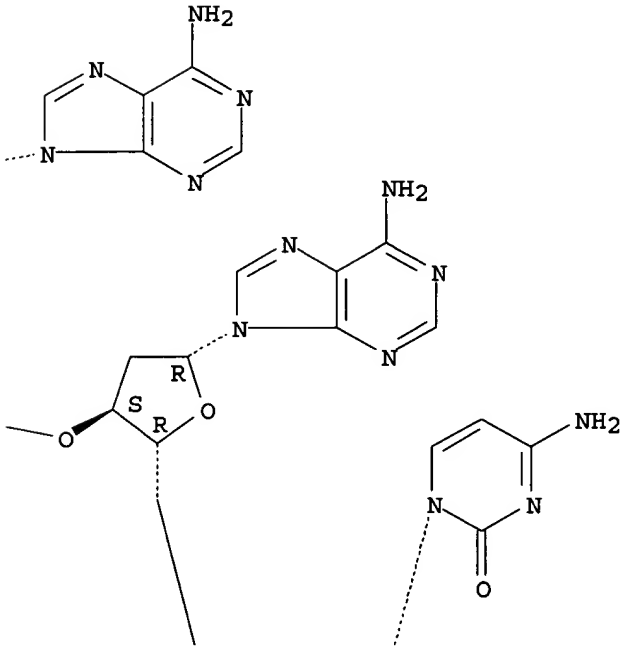
RN 331871-83-1 HCAPLUS
CN Thymidine, thymidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxy-5-methylcytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

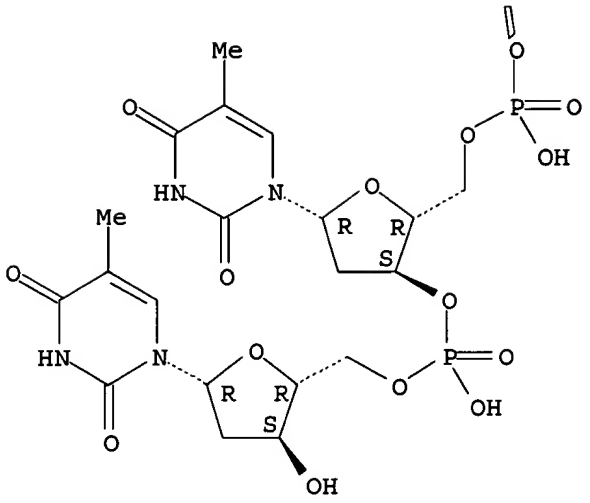
PAGE 1-A



PAGE 1-B



PAGE 2-A



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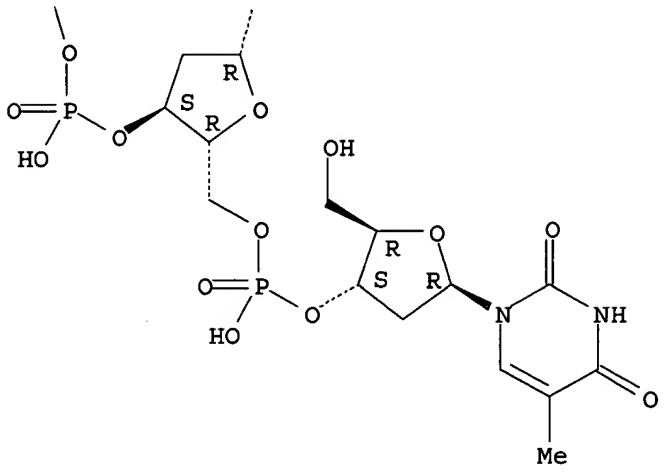
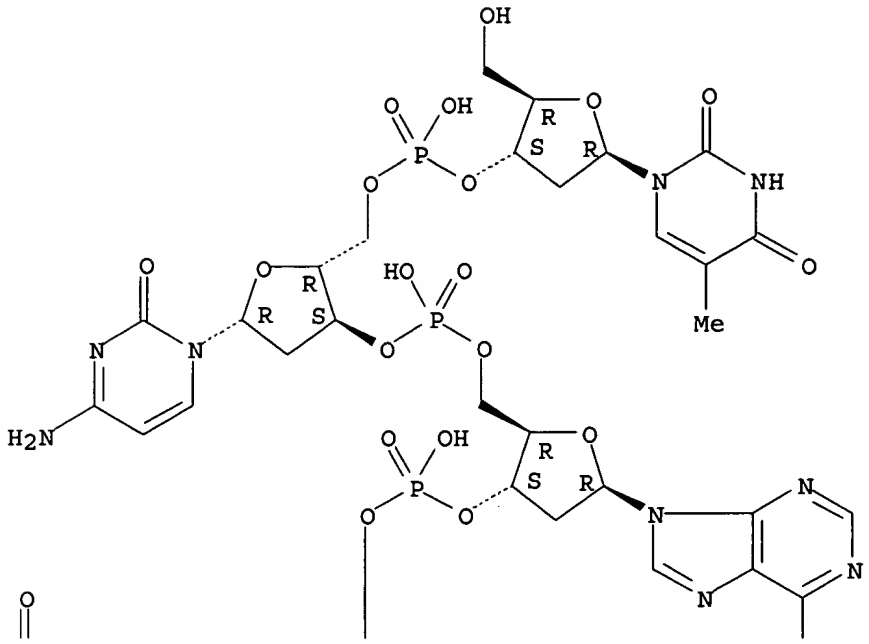


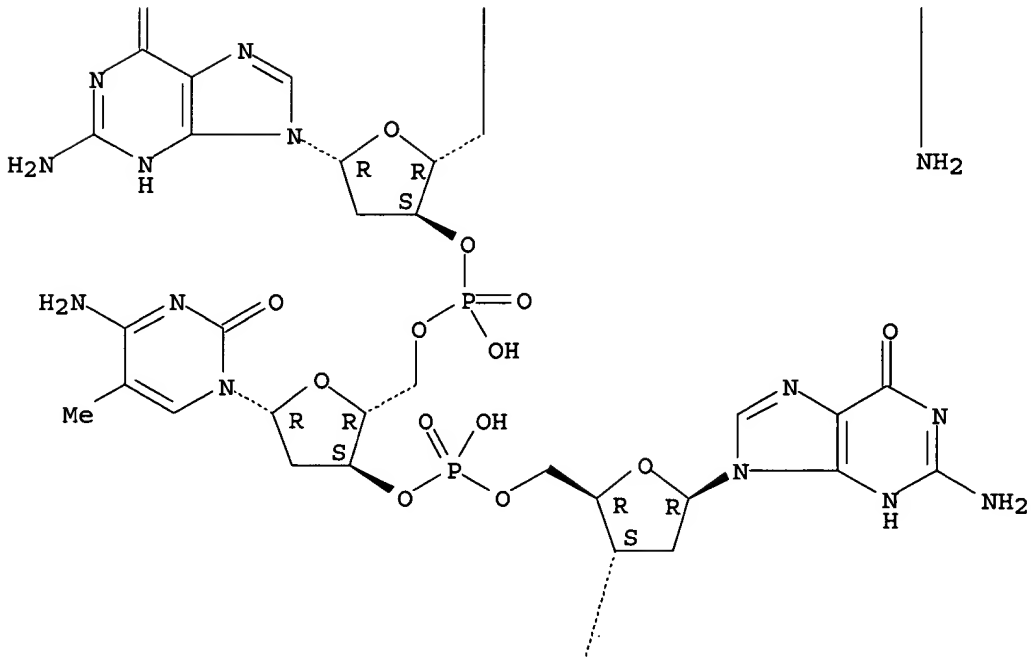
RN 331871-87-5 HCAPLUS
CN Thymidine, thymidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy-5-methylcytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

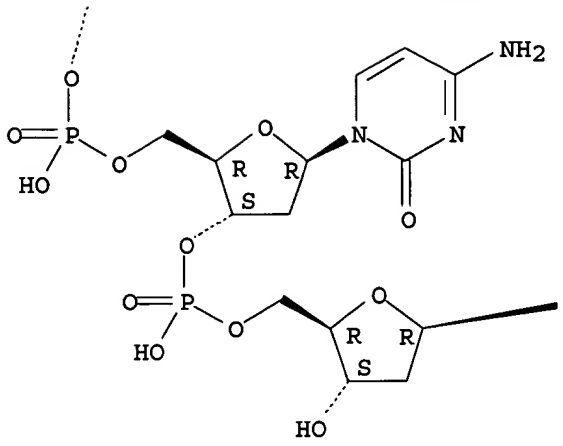
PAGE 1-A



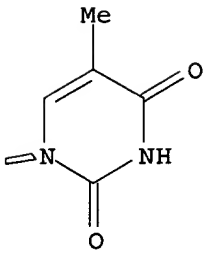
PAGE 2-A



PAGE 3-A



PAGE 3-B



L47 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:589942 HCAPLUS
DN 133:189875
ED Entered STN: 24 Aug 2000
TI Optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA
IN Keese, Paul; Stapper, Marianne; Perriman, Rhonda
PA Gene Shears Pty Limited, Australia
SO U.S., 54 pp., Cont.-in-part of U.S. Ser. No. 265,484.
CODEN: USXXAM
DT **Patent**
LA English
IC ICM C07H021-00
ICS C07H021-02; C12N001-21; C12N015-64
NCL 435252300
CC 7-4 (Enzymes)
Section cross-reference(s): 3
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6107078	A	20000822	US 1997-765257	19970505 <--
US 5998193	A	19991207	US 1994-265484	19940624 <--

WO 9600232 A1 19960104 WO 1995-AU359 19950621 <--
W: AU, CA, JP, RU, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
PRAI US 1994-265484 A2 19940624 <--
WO 1995-AU359 W 19950621 <--
OS MARPAT 133:189875

AB This invention is directed to improved catalytic compds., hammerhead ribozymes, capable of hybridizing with a target RNA to be cleaved. These improved compds. have optimized stems (X)m*(X)m', loops (X)b and hybridizing arms. The invention is also directed to compns. for enhanced RNA cleavage which comprise a first synthetic non-naturally occurring oligonucleotide compound which comprises nucleotides whose sequence defines a conserved catalytic region and nucleotides whose sequence is capable of hybridizing with a predetd. target sequence and a second synthetic non-naturally occurring oligonucleotide which does not contain the predetd. target sequence and is complementary to at least a portion of the first oligonucleotide compound The invention is also directed to synthetic non-naturally occurring oligonucleotide compds. embedded in a tRNA. The ribozymes and compns. of the present invention may be used in vitro or in vivo. They may be used as diagnostic or therapeutic agents.

ST hammerhead ribozyme structure activity specificity stability; tRNA embedded ribozyme structure activity

IT Animal cell line
(CHO, host for oligonucleotide transfer vector; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT Animal cell line
(COS, host for oligonucleotide transfer vector; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT Ribozymes
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
(hammerhead; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT Escherichia coli
Plant cell
Protoplast and Spheroplast
(host for oligonucleotide transfer vector; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT Animal cell
(mammalian, host for oligonucleotide transfer vector; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT Bacteriophage
Geminiviridae
Plant virus
(oligonucleotide transfer vector; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT Cosmids
Genetic vectors
Plasmid vectors
Virus vectors
(oligonucleotide transfer; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT Structure-activity relationship
(optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT tRNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT Tobacco (Nicotiana rustica)
(tyrosine tRNA from; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT tRNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(tyrosine-specific; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

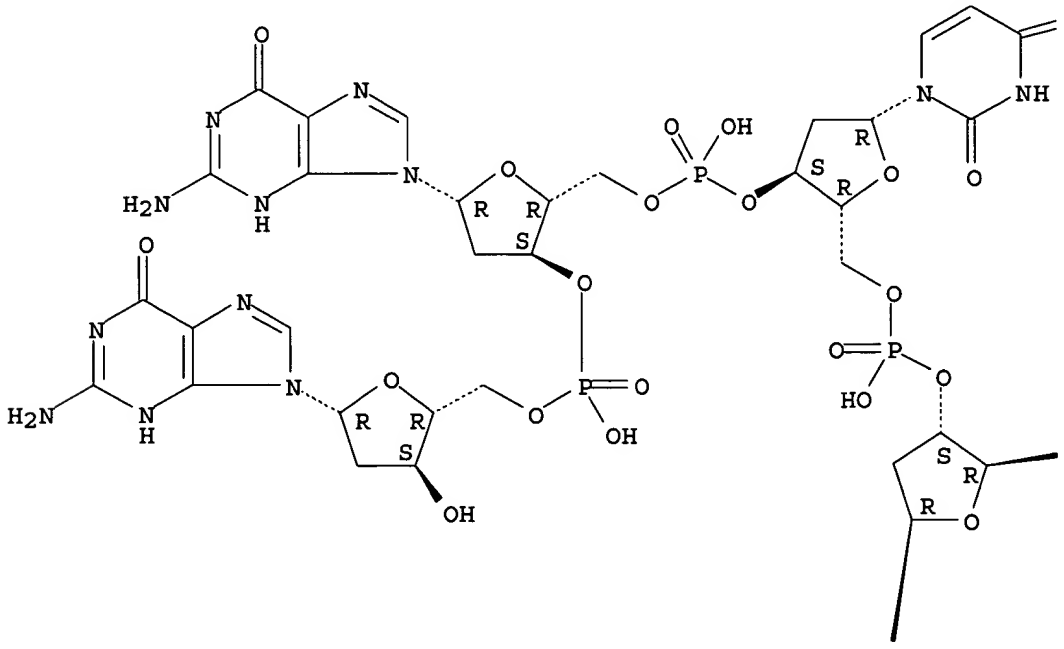
IT 288639-34-9, 1: PN: US6107078 SEQID: 1 unclaimed RNA 288639-35-0, 2: PN: US6107078 SEQID: 2 unclaimed RNA 288639-36-1, 3: PN: US6107078 SEQID: 3 unclaimed RNA 288639-37-2, 4: PN: US6107078 SEQID: 4 unclaimed RNA 288639-38-3, 5: PN: US6107078 SEQID: 5 unclaimed RNA 288639-39-4, 6: PN: US6107078 SEQID: 6 unclaimed RNA 288639-40-7, 7: PN: US6107078 SEQID: 7 unclaimed RNA 288639-41-8, 8: PN: US6107078 SEQID: 8 unclaimed RNA 288639-42-9, 9: PN: US6107078 SEQID: 9 unclaimed RNA 288639-43-0 288639-44-1 288639-45-2 288639-47-4 288639-48-5 288639-49-6 288639-50-9 288639-51-0 288639-52-1 288639-53-2 288639-54-3 288639-55-4 288639-56-5 288639-57-6 288639-58-7 288639-59-8 288639-60-1 288639-61-2 288639-62-3 288639-63-4 288639-64-5 288639-65-6, 33: PN: US6107078 FIG: 4A unclaimed RNA 288639-66-7, 34: PN: US6107078 FIG: 4A unclaimed RNA 288639-69-0, 35: PN: US6107078 FIG: 5 unclaimed RNA 288639-70-3, 36: PN: US6107078 FIG: 5 unclaimed RNA 288639-71-4, 37: PN: US6107078 FIG: 5 unclaimed RNA 288639-72-5, 38: PN: US6107078 FIG: 5 unclaimed RNA 288639-73-6, 39: PN: US6107078 FIG: 5 unclaimed RNA 288639-74-7, 40: PN: US6107078 FIG: 5 unclaimed RNA 288639-75-8, 41: PN: US6107078 FIG: 5 unclaimed RNA 288639-76-9, 42: PN: US6107078 FIG: 5 unclaimed RNA 288639-77-0, 43: PN: US6107078 FIG: 5 unclaimed RNA 288639-78-1, 44: PN: US6107078 FIG: 5 unclaimed RNA 288639-79-2, 45: PN: US6107078 FIG: 5 unclaimed RNA 288639-80-5, 46: PN: US6107078 FIG: 5 unclaimed RNA 288639-81-6, 47: PN: US6107078 FIG: 5 unclaimed RNA 288639-82-7, 48: PN: US6107078 FIG: 5 unclaimed RNA 288639-83-8, 49: PN: US6107078 FIG: 5 unclaimed RNA 288639-84-9, 50: PN: US6107078 FIG: 5 unclaimed RNA 288639-85-0, 51: PN: US6107078 FIG: 5 unclaimed RNA 288639-86-1, 52: PN: US6107078 FIG: 5 unclaimed RNA 288639-87-2, 70: PN: US6107078 FIG: 9A unclaimed RNA 288877-86-1
RL: PRP (Properties)
(unclaimed nucleotide sequence; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)

IT 4166-19-2 6816-25-7 32163-94-3 35170-08-2 36186-51-3 36186-54-6 55048-58-3 55048-62-9 56399-90-7 56420-35-0 56583-83-6 56931-07-8 61537-87-9 64223-55-8 68726-44-3 69659-66-1 76873-86-4 79507-37-2 93929-03-4 97423-59-1 106470-75-1 107535-04-6 113665-43-3 134226-74-7 142067-24-1 162248-58-0 182875-90-7 183112-95-0 244223-12-9 252769-46-3 252769-47-4 252769-48-5 252769-56-5 269717-24-0 **288620-91-7** 288620-92-8 288620-93-9 288620-94-0 288620-95-1 288620-96-2 288620-97-3 288620-98-4 288620-99-5 288621-00-1 288621-01-2 288621-02-3 288621-03-4 288621-04-5 288621-05-6 288621-06-7 288621-07-8 288621-08-9 288621-09-0 288621-10-3
RL: PRP (Properties)
(unclaimed sequence; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops,

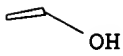
and embedding of the ribozyme in a tRNA)
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; WO 8905852 1989 HCAPLUS
(2) Anon; AU 6499590 B 1991
(3) Anon; WO 9119789 1991 HCAPLUS
(4) Anon; AU 1824992 B 1992
(5) Anon; AU 4420793 1993
(6) Anon; WO 9315194 1993 HCAPLUS
(7) Anon; WO 9324133 1993 HCAPLUS
(8) Anon; WO 9413688 1994 HCAPLUS
(9) Anon; WO 9413833 1994 HCAPLUS
(10) Anon; WO 9419476 1994 HCAPLUS
(11) Anon; WO 9503404 1995 HCAPLUS
(12) Anon; WO 9506764 1995
(13) Cotten; The EMBO Journal 1989, V8(12), P3861 HCAPLUS
(14) Hampel; Nucleic Acids Res 1990, V18(2), P299 HCAPLUS
(15) Haseloff; US 5254678 1993 HCAPLUS
(16) Haseloff; Nature 1988, V334, P585 HCAPLUS
IT **288620-91-7**
RL: PRP (Properties)
(unclaimed sequence; optimization of ribozyme specificity and activity by design of catalytic domain and hybridizing arms, stems, and loops, and embedding of the ribozyme in a tRNA)
RN 288620-91-7 HCAPLUS
CN Guanosine, 2'-deoxyguanylyl-(3'→5')-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

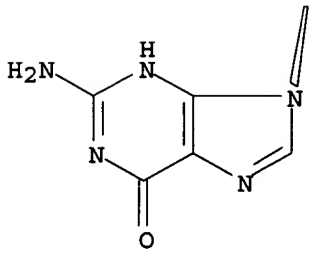
PAGE 1-A



PAGE 1-B



PAGE 2-A



L47 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:98808 HCAPLUS
DN 132:146634
ED Entered STN: 11 Feb 2000
TI Anti-angiogenesis plasmids and delivery systems and their construction and use
IN Min, Wang; Szymanski, Paul; Mehrens, Dorothy; Ralston, Robert; Sullivan, Sean
PA Valentis, Inc., USA
SO PCT Int. Appl., 103 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM C12N015-85
ICS C12N015-55; C12N015-12; C12N015-88; A61K048-00
CC 1-6 (Pharmacology)
Section cross-reference(s): 3
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000006759	A2	20000210	WO 1999-US16388	19990720 <--
WO 2000006759	A3	20000622		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,

TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
CA 2337496 AA 20000210 CA 1999-2337496 19990720 <--
AU 9953182 A1 20000221 AU 1999-53182 19990720 <--
EP 1100941 A2 20010523 EP 1999-938769 19990720 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
JP 2002524036 T2 20020806 JP 2000-562541 19990720 <--
PRAI US 1998-94375P P 19980727 <--
WO 1999-US16388 W 19990720 <--

AB The present invention relates to gene delivery and gene therapy, and provides novel nucleic acid constructs for expression of anti-angiogenic agents in a mammal, formulations for delivery that incorporate a nucleic acid construct for expression, and methods for preparing and using such constructs and formulations. In particular, this invention relates to plasmid constructs for delivery of therapeutic anti-angiogenic encoding nucleic acids to cells in order to modulate tumor activity, methods of using those constructs (including combination therapy with other agents, such as cytokines, preferably interleukin-12), as well as methods for preparing such constructs. Plasmid vectors are constructed comprising synthetic genes having optimal codon usage for endostatin and angiostatin expression, under the control of a promoter specific for expression in endothelial cells (e.g., the enhancer of cytomegalovirus for human endothelin-1) and the growth hormone 3'-untranslated region with a deleted Alu repeat. A polymeric gene delivery system uses polyvinyl pyrrolidone to increase protein expression by protecting plasmid DNA from nucleases and controlling the dispersion and retention of plasmid DNA in injected tissues. The plasmid delivery system also comprises a cationic lipid (DOPTMA), neutral lipid (cholesterol), and an isotonic carbohydrate (lactose) solution

ST endostatin angiostatin gene expression plasmid vector; angiogenesis inhibitor gene expression plasmid vector; polyvinyl pyrrolidone plasmid vector angiogenesis gene therapy

IT Thrombospondins
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(1; anti-angiogenesis plasmids and delivery systems and their construction and use)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(3'-UTR (3'-untranslated region); anti-angiogenesis plasmids and delivery systems and their construction and use)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(5'-UTR (5'-untranslated region); anti-angiogenesis plasmids and delivery systems and their construction and use)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(CDC6, endothelial cell-specific promoter from; anti-angiogenesis plasmids and delivery systems and their construction and use)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(E2F1, endothelial cell-specific promoter from; anti-angiogenesis plasmids and delivery systems and their construction and use)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ICAN-2, endothelial cell-specific promoter from; anti-angiogenesis plasmids and delivery systems and their construction and use)

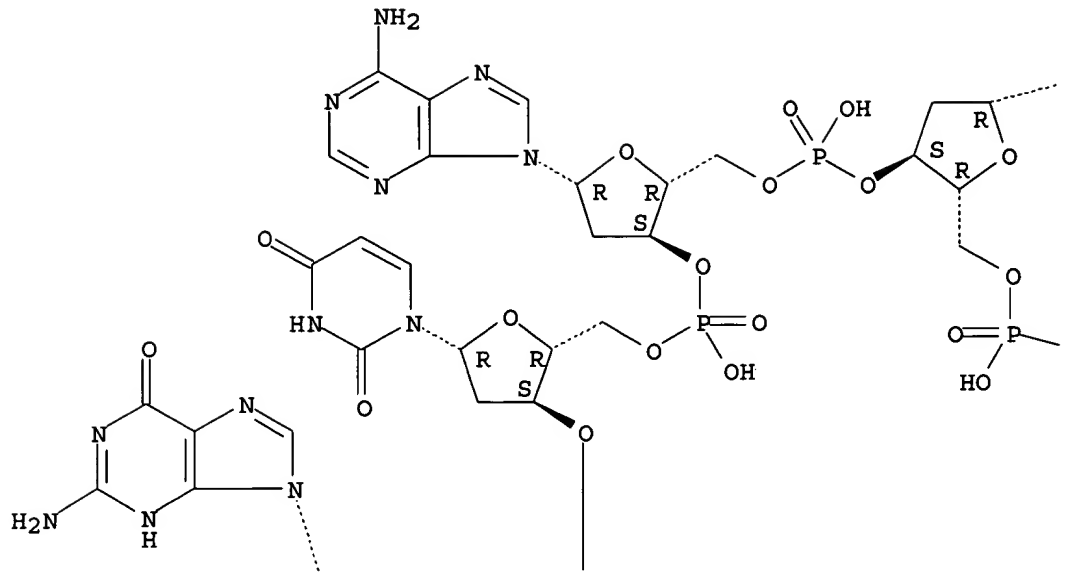
IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(IRES (internal ribosomal entry site) element; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Encephalomyocarditis virus
(IRES from; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(TATA box; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Immunoglobulins
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(VHL gene for; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Lipids, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(acidic, polymer gene delivery system composition containing; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Angiogenic factors
Angiogenic factors
Growth inhibitors, animal
Growth inhibitors, animal
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(angiogenic growth-inhibiting factors; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Antitumor agents
Cyclin dependent kinase inhibitors
DNA sequences
Gene therapy
Transformation, genetic
(anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Synthetic gene
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Interleukin 12
Vascular endothelial growth factor receptors
p53 (protein)
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Proteins, specific or class
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(basic fibroblast growth factor-binding; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(cap site; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)

(cycA, endothelial cell-specific promoter from; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Cytomegalovirus
(endothelial cell-specific promoter from; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Enhancer (genetic element)
Promoter (genetic element)
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(endothelial cell-specific; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Vascular endothelial growth factor receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene KDR, endothelial cell-specific promoter from; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Lung, neoplasm
Lung, neoplasm
(inhibitors; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Cytokines
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(interferon-inducible IP-10; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(intron; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Solutions
(isotonic solns., polymer gene delivery system composition containing; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Antitumor agents
Antitumor agents
(lung; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Antitumor agents
(metastasis; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Lipids, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neutral, polymer gene delivery system composition containing; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Codon usage
(optimal codon usage in synthetic genes; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Plasmid vectors
(pES1281 or pIA316 or pAS1095 or pAS1096; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(polyadenylation signal; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Actins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(α-, intron/5'-UTR from gene for; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Interferons
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
(α; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(αvβ3, blocking agent; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT 86090-08-6, Angiostatin 187888-07-9, Endostatin
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(anti-angiogenesis plasmids and delivery systems and their construction and use)
IT 123626-67-5, Endothelin 1
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(endothelial cell-specific promoter from; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT 207241-25-6 244145-68-4, PN: WO9947678 SEQID: 13 unclaimed DNA
244145-69-5, PN: WO9947678 SEQID: 14 unclaimed DNA
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(nucleotide sequence; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT 257901-54-5 258258-36-5 258258-37-6 258258-38-7
RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT 57-88-5, Cholesterol, biological studies 63-42-3, Lactose 9003-39-8, Polyvinylpyrrolidone 104162-48-3, DOTMA
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer gene delivery system composition containing; anti-angiogenesis plasmids
and delivery systems and their construction and use)
IT 9035-58-9, Blood-coagulation factor III
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(truncated; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT 102386-00-5 257901-80-7, 1: PN: WO0006759 page: 34 unclaimed DNA
257901-81-8, 3: PN: WO0006759 SEQID: 17 unclaimed RNA 257901-83-0, 6: PN: WO0006759 PAGE: 62 unclaimed DNA 257901-84-1, 7: PN: WO0006759 PAGE: 60 unclaimed DNA 257901-85-2, 8: PN: WO0006759 PAGE: 60 unclaimed DNA
257901-86-3, 10: PN: WO0006759 PAGE: 63 unclaimed DNA 257901-87-4, 11: PN: WO0006759 PAGE: 63 unclaimed DNA 257901-88-5, 12: PN: WO0006759 PAGE: 60 unclaimed DNA 257901-89-6, 13: PN: WO0006759 PAGE: 60 unclaimed DNA 257901-90-9, 14: PN: WO0006759 PAGE: 60 unclaimed DNA 257901-91-0, 15: PN: WO0006759 PAGE: 60 unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT 105150-09-2 **257859-98-6** 257901-82-9
RL: PRP (Properties)
(unclaimed sequence; anti-angiogenesis plasmids and delivery systems and their construction and use)
IT **257859-98-6**
RL: PRP (Properties)
(unclaimed sequence; anti-angiogenesis plasmids and delivery systems and their construction and use)
RN 257859-98-6 HCAPLUS
CN Guanosine, 2'-deoxyadenylyl-(3'→5')-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyuridylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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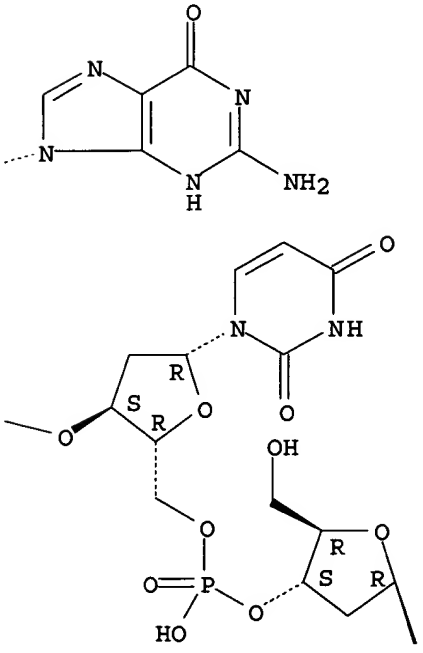

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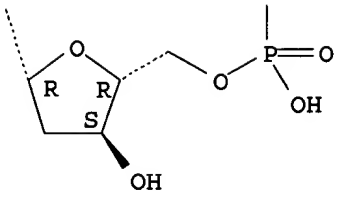

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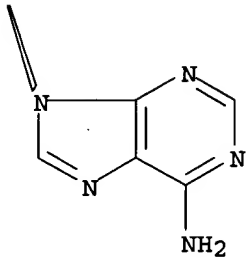

L47 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:794271 HCAPLUS
DN 132:49030
ED Entered STN: 16 Dec 1999
TI Antibodies that selectively bind quadruplex nucleic acids
IN Hardin, Charles C.; Brown, Bernard A., II; Roberts, John F.; Pelsue, Stephen C.
PA North Carolina State University, USA; Jackson Laboratories
SO U.S., 11 pp.
CODEN: USXXAM
DT **Patent**
LA English
IC ICM G01N033-566
ICS G01N033-551; G01N033-552; G01N033-536
NCL 436501000
CC 15-3 (Immunochemistry)
Section cross-reference(s): 3
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6001657	A	19991214	US 1996-729598	19961011 <--
PRAI US 1995-5242P	P	19951012 <--		

AB Antibodies that selectively bind to quadruplex nucleic acids are described. Isolated cells that produce such antibodies, and methods utilizing these antibodies, are also described. A quadruplex DNA-binding antibody mev-αQ1 was raised and identified.
ST quadruplex nucleic acid DNA monoclonal antibody
IT DNA sequences
Hybridoma
RNA sequences
(antibodies that selectively bind quadruplex nucleic acids)
IT Antibodies
RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(antibodies that selectively bind quadruplex nucleic acids)
IT Antibodies

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(autoantibodies; antibodies that selectively bind quadruplex nucleic acids)

IT Antibodies
RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(monoclonal; antibodies that selectively bind quadruplex nucleic acids)

IT DNA
Nucleic acids
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(quadruplex; antibodies that selectively bind quadruplex nucleic acids)

IT Immunoassay
(radioimmunoassay, filter-binding; antibodies that selectively bind quadruplex nucleic acids)

IT 85-32-5, GMP 100214-38-8 108050-57-3 113670-78-3 117490-04-7
137333-01-8 143485-88-5 150029-40-6 198821-89-5 217642-45-0
252231-55-3
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(quadruplex; antibodies that selectively bind quadruplex nucleic acids)

IT 161310-36-7 252325-11-4, 1: PN: US6001657 SEQID: 11 unclaimed DNA
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RL: PRP (Properties)
(unclaimed nucleotide sequence; antibodies that selectively bind quadruplex nucleic acids)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT **252231-55-3**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(quadruplex; antibodies that selectively bind quadruplex nucleic acids)

RN 252231-55-3 HCAPLUS

CN Guanosine, 2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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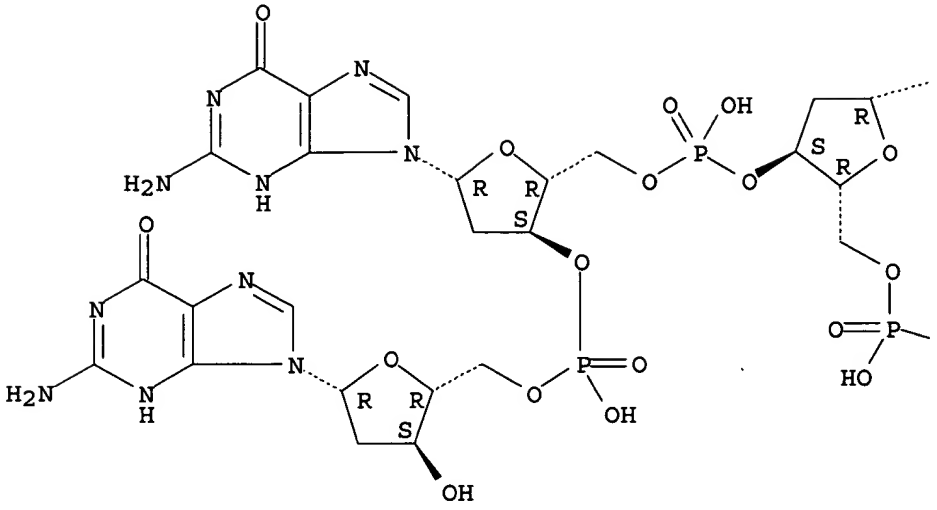

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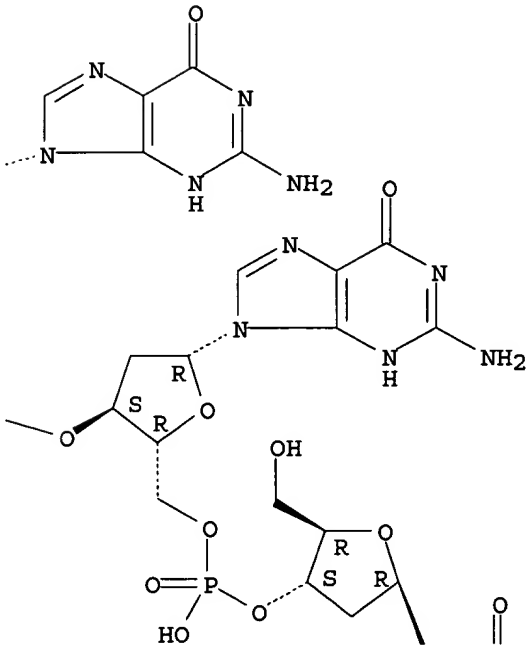

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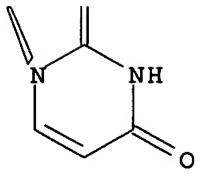

L47 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:681970 HCAPLUS
DN 129:313126
ED Entered STN: 28 Oct 1998
TI Nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes
IN Meade, Thomas J.; Kayyem, Jon Faiz; Fraser, Scott E.
PA California Institute of Technology, USA
SO U.S., 29 pp., Cont.-in-part of U.S. 5,591,578.
CODEN: USXXAM
DT **Patent**
LA English
IC ICM C12Q001-68
ICS C12Q001-70; C07H021-04; C07H021-02
NCL 435006000
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 3, 33
FAN.CNT 4

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PI	US 5824473	A	19981020	US 1995-475051	19950607 <--
	US 5591578	A	19970107	US 1993-166036	19931210 <--
	CA 2178618	AA	19950615	CA 1994-2178618	19941205 <--
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	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
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	US 5770369	A	19980623	US 1996-660534	19960607 <--
	EP 871642	A1	19981021	EP 1996-919290	19960607 <--
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	US 6265155	B1	20010724	US 1997-808750	19970228 <--
	US 5952172	A	19990914	US 1997-873598	19970612 <--

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US 6277576	B1	20010821	US 1999-306768	19990507	<--
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US 2003170677	A1	20030911	US 2002-279742	20021023	<--
US 2004101890	A1	20040527	US 2003-636371	20030807	<--

PRAI US 1993-166036	A2	19931210	<--	
EP 1995-903194	A3	19941205	<--	
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US 1996-660534	A2	19960607	<--	
WO 1996-US9769	W	19960607	<--	
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US 1999-306749	A1	19990507	<--	
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US 2000-545227	A1	20000407	<--	
US 2000-639311	A1	20000815	<--	
US 2001-845746	A1	20010430		

AB The present invention provides for the selective covalent modification of nucleic acids with redox active moieties such as transition metal complexes. Electron donor and electron acceptor moieties are covalently bound to the ribose-phosphate backbone of a nucleic acid at predetd. positions. The resulting complexes represent a series of new derivs. that are bimol. templates capable of transferring electrons over very large distances at extremely fast rates. These complexes possess unique structural features which enable the use of an entirely new class of bioconductors and photoactive probes. Preparation of 5'-2'-ruthenium bisbipyridineimidazole-aminouridine-GCTACGA and 5'-2'-ruthenium tetraminepyridine-aminouridine-CGTAGCA was demonstrated. A method for the synthesis of long DNA duplexes with electron transfer moieties at the 5'-termini was also described.

ST oligonucleotide transition metal deriv electron transfer; hybridization oligonucleotide transition metal deriv; ruthenium deriv oligonucleotide electron transfer hybridization

IT Oligonucleotides
Peptide nucleic acids
Probes (nucleic acid)
RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(conjugates with transition metal derivs.; nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)

IT Electron transfer
Nucleic acid hybridization
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)

IT Nucleic acids

RL: ANT (Analyte); ANST (Analytical study)
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)

IT Transition metal complexes
RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)

IT 7439-89-6DP, Iron, conjugates with oligonucleotides, preparation
7440-04-2DP, Osmium, conjugates with oligonucleotides, preparation
7440-15-5DP, Rhenium, conjugates with oligonucleotides, preparation
7440-18-8DP, Ruthenium, conjugates with oligonucleotides, preparation
7440-50-8DP, Copper, conjugates with oligonucleotides, preparation
214747-74-7P
RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)

IT 51989-21-0 59460-48-9 63251-20-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)

IT **170572-25-5P** 170572-26-6P 214489-90-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)

IT **200565-68-0P** 200565-69-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)

RE.CNT 133 THERE ARE 133 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT **214747-74-7P**
RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)

RN 214747-74-7 HCAPLUS

CN Ruthenate(6-), [2'-(amino-κN)-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenosinato(8-)]bis(2,2'-bipyridine-κN1,κN1')(1H-imidazole-κN3)-, heptahydrogen, compd. with heptahydrogen [2'-(amino-κN)-2'-deoxyuridylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenosinato(8-)]tetraammine(pyridine)ruthenate(5-) (1:1) (9CI) (CA INDEX NAME)

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CRN 200565-69-1
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CCI CCS

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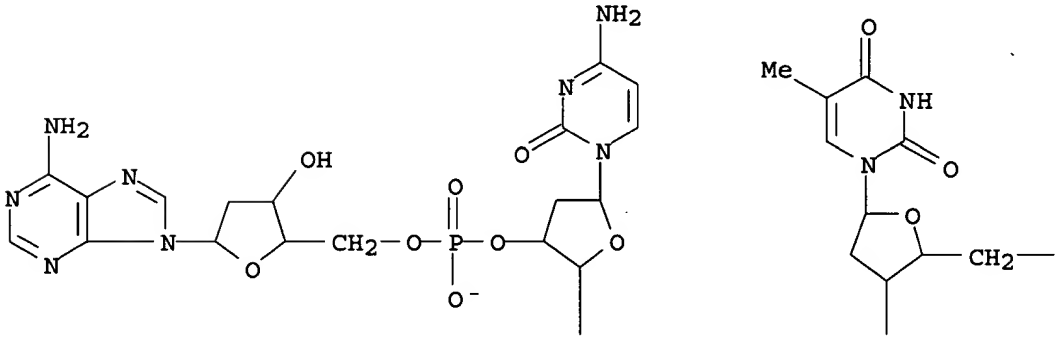

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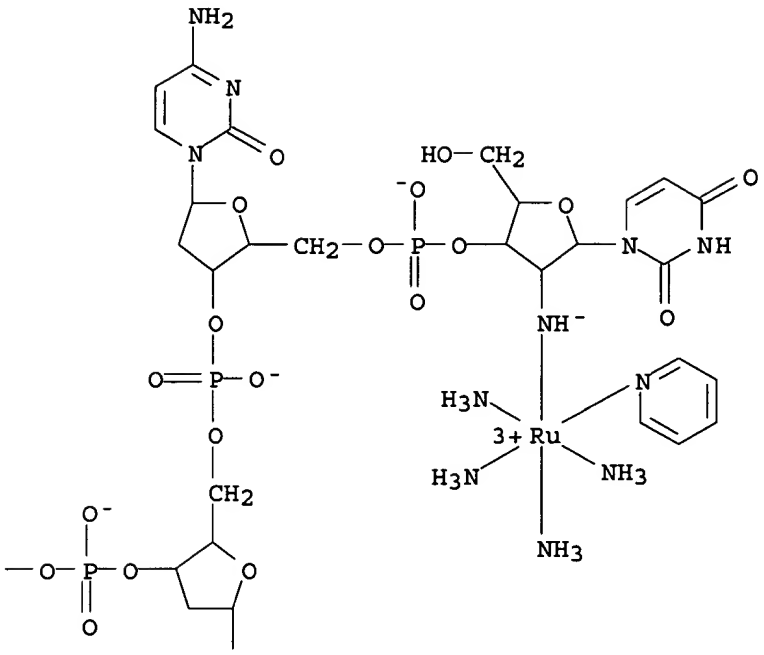

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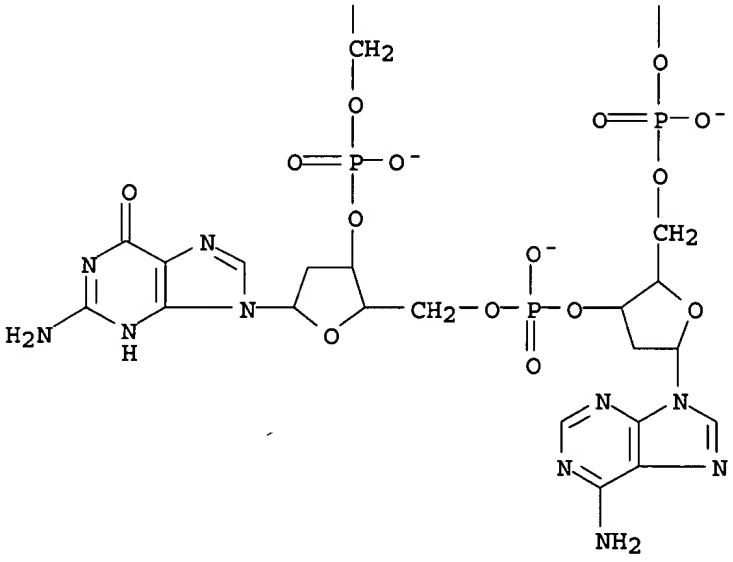

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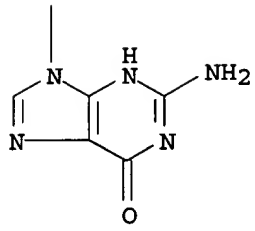

●7 H^+

CM 2

CRN 200565-68-0
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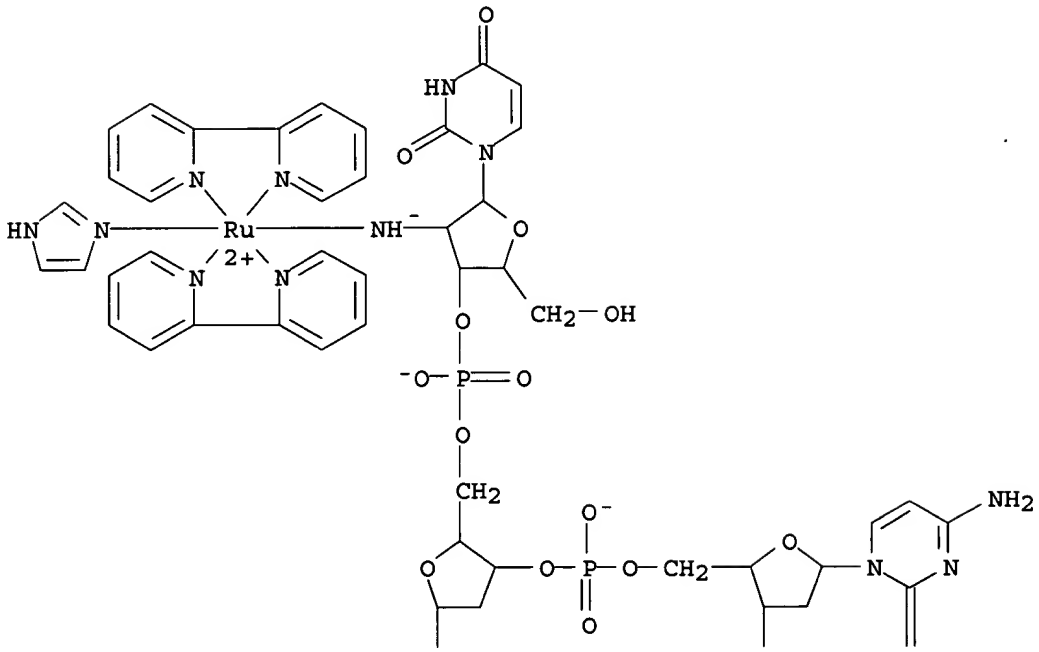
CCI CCS

PAGE 1-A



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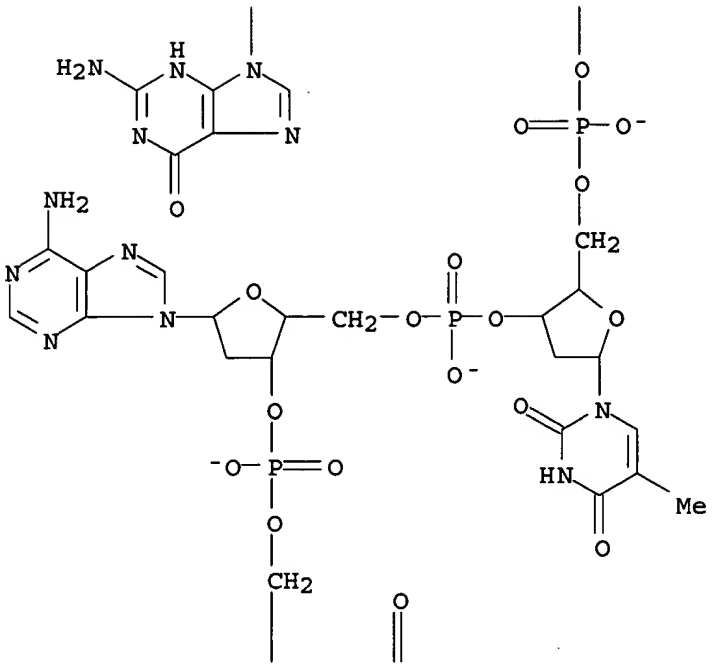

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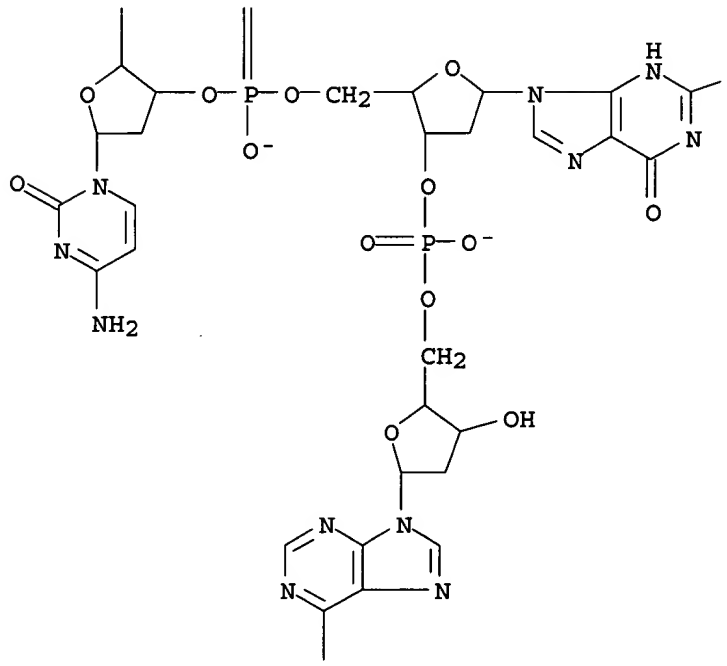

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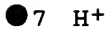
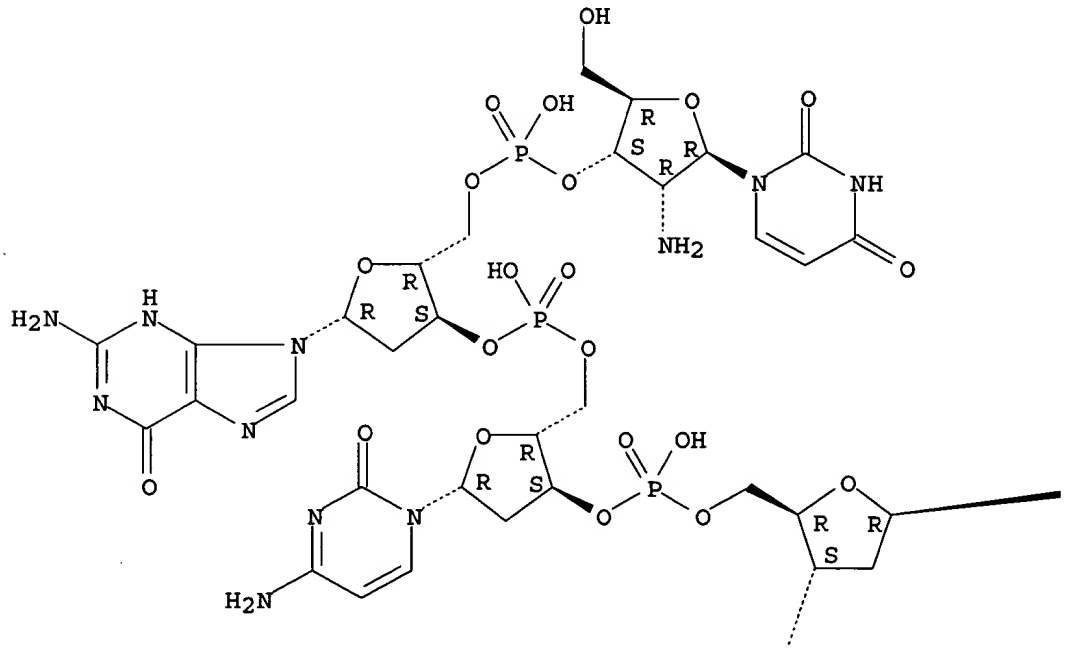
PAGE 4-A



IT **170572-25-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)
RN 170572-25-5 HCAPLUS
CN Adenosine, 2'-amino-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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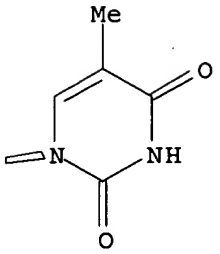

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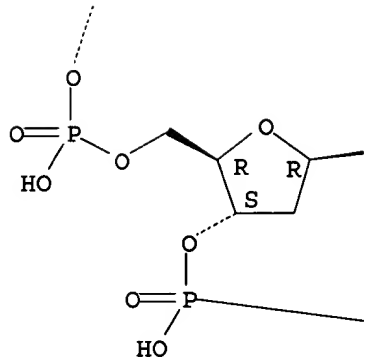

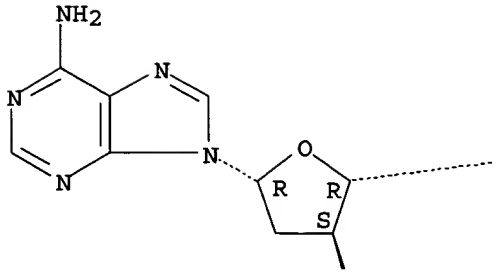

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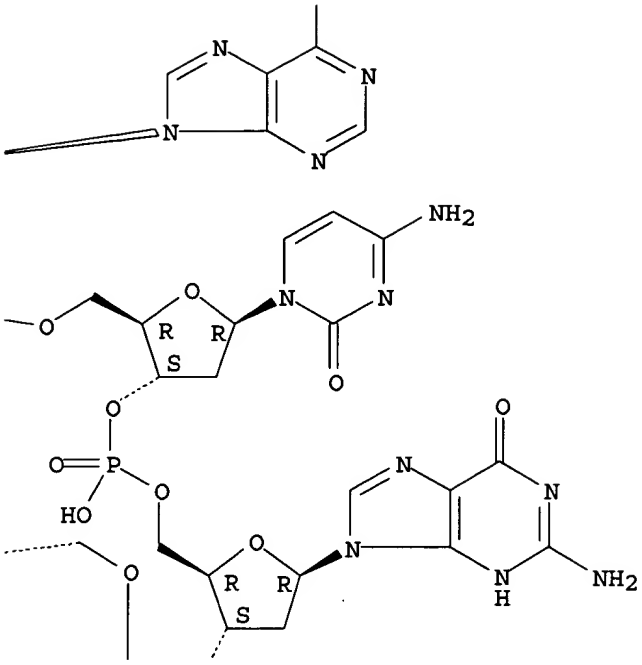

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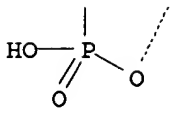
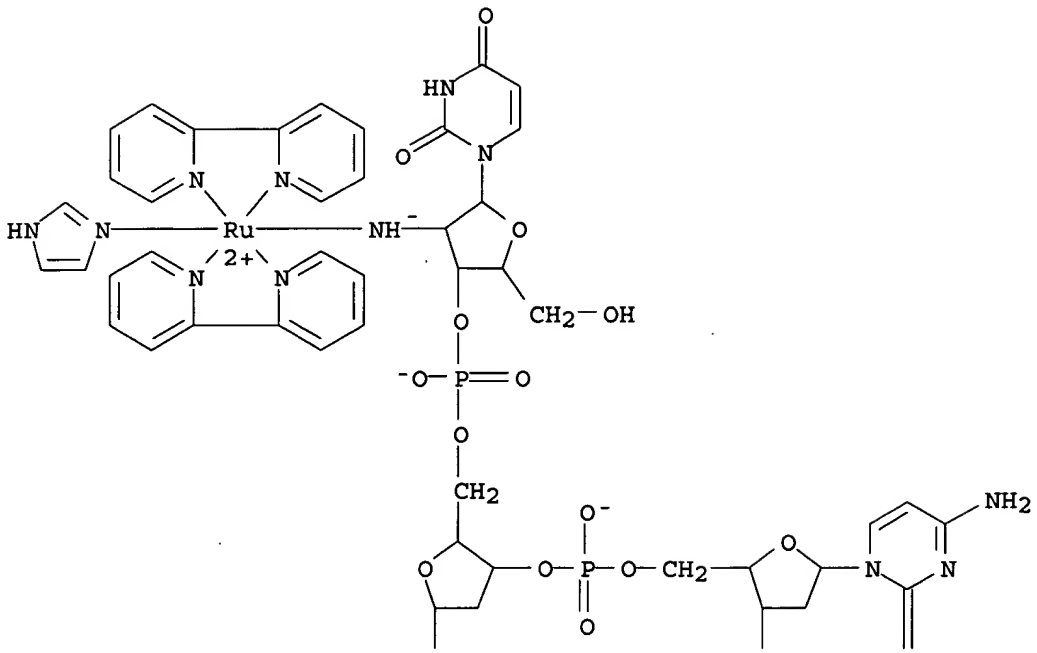


IT **200565-68-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(nucleic acid conjugates with organic redox active moieties and nucleic acid complexes with transition metals, electron transfer, bioconductors, and photoactive probes)
RN 200565-68-0 HCAPLUS
CN Ruthenate(6-), [2'-(amino-κN)-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenosinato(8-)]bis(2,2'-bipyridine-κN1,κN1')(1H-imidazole-κN3)-, heptahydrogen, (OC-6-23)- (9CI) (CA INDEX NAME)

PAGE 1-A



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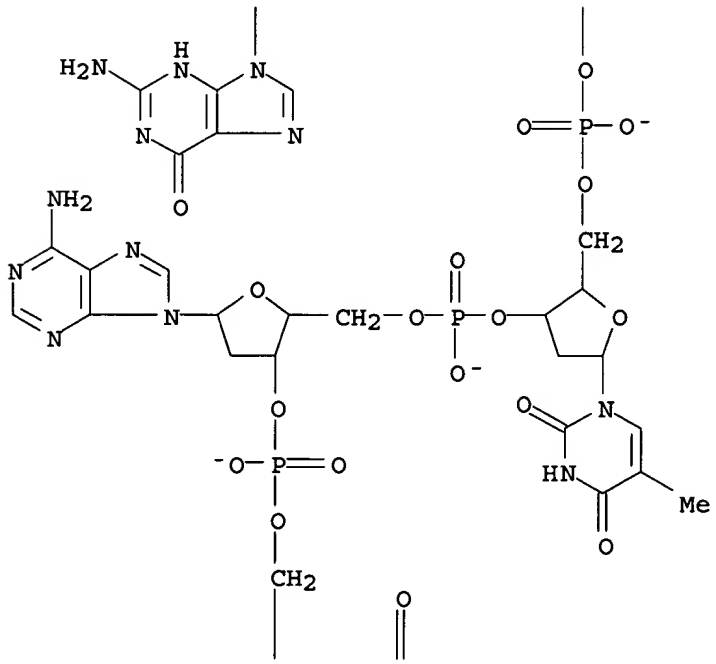

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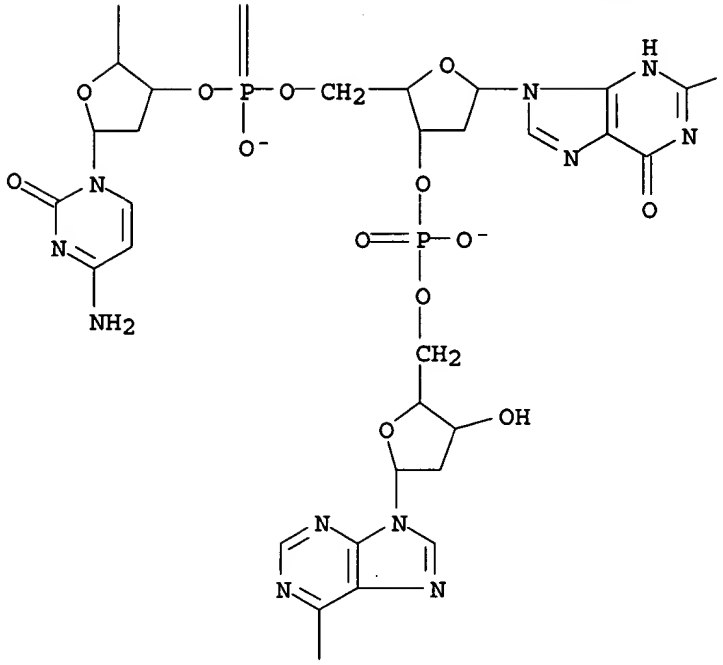

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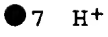
PAGE 4-A



L47 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:1487 HCAPLUS
DN 128:85150
ED Entered STN: 02 Jan 1998
TI Oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes
IN Meade, Thomas J.; Welch, Thomas W.
PA California Institute of Technology, USA
SO PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM C07H019-067
ICS C07H019-167; C07H021-02; C07H023-00; C12Q001-68

CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 6, 33
FAN.CNT 2

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	RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
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	AU 9733014	A1	19980105	AU 1997-33014	19970604	<--
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PRAI	US 1996-659987	A	19960607	<--		
	WO 1997-US9739	W	19970604	<--		

AB The present invention provides for the selective covalent modification of nucleic acids with redox active moieties such as transition metal complexes. Electron donor and electron acceptor moieties are covalently bound to the ribose-phosphate backbone of a nucleic acid at predetd. positions. The resulting complexes represent a series of new derivs. that are bimol. templates capable of transferring electrons over very large distances at extremely fast rates. These complexes possess unique structural features which enable the use of an entirely new class of bioconductors and photoactive probes. The preparation of oligonucleotides containing 5'-terminal 2'-ruthenium bisbipyridineimidazole-aminouridine or 2'-ruthenium tetraminepyridine-aminouridine as well as oligonucleotides containing both electron transfer moieties was described.

ST oligonucleotide conjugate transition metal complex hybridization

IT Nucleosides, properties
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(conjugates with polydentate ligand; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Glass, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(controlled pore, conjugates with polydentate ligand-nucleoside conjugates; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Nucleic acids
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(electron donor and acceptor-containing; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT PCR (polymerase chain reaction)
(electron transfer moieties-containing DNA synthesis by; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Peptide nucleic acids
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(electron transfer moieties-containing; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Ligands
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)
(multidentate, conjugates with nucleosides; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Electron donors
(nucleic acids containing electron acceptors and; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Electron acceptors
(nucleic acids containing electron donors and; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Nucleic acid hybridization
(oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Oligonucleotides
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(phosphoramidite-linked, electron transfer moieties-containing; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Nucleosides, properties
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(phosphoramidites, conjugates with polydentate ligand; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Oligonucleotides
RL: ARU (Analytical role, unclassified); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(polydentate-modified nucleoside-containing; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT Electrodes
(redox active moiety-containing nucleic acid attached to; oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT **200565-68-0P** 200565-69-1P 200822-60-2P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT 383-64-2, S-Ethyltrifluorothioacetate 1121-60-4, 2-Pyridinecarboxaldehyde 26889-39-4, 2'-Deoxy-2'-Aminouridine 40615-36-9 51989-21-0, 2'-(Trifluoroacetamido)-2'-deoxyuridine 59460-48-9 184434-73-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT 118849-17-5P **170572-25-5P** 170572-26-6P 200565-70-4P 200565-71-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

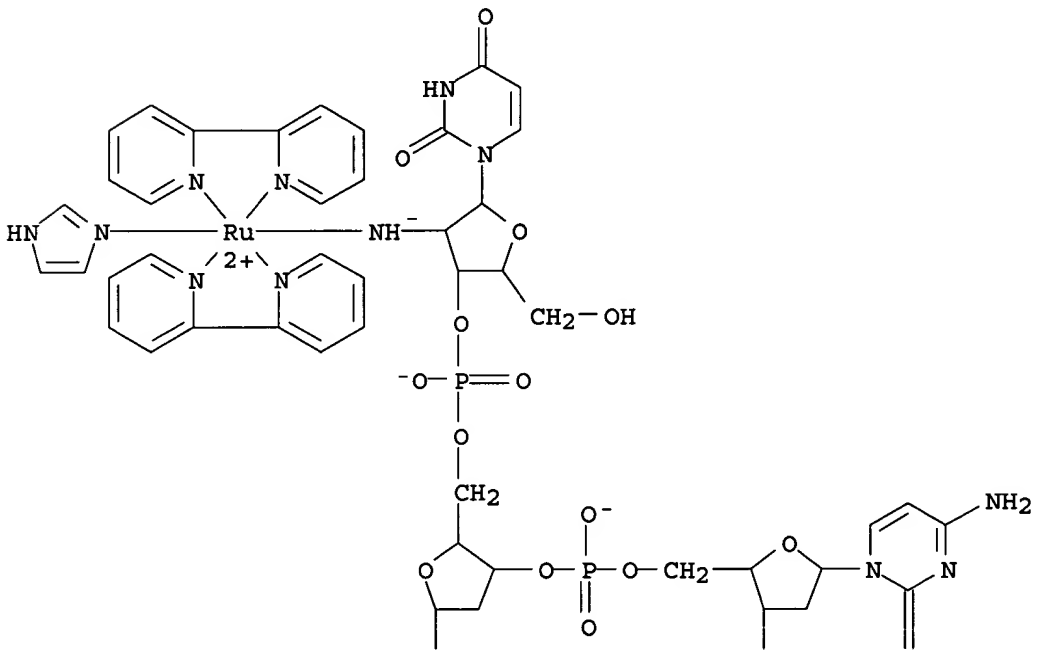
IT **200644-72-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

IT **200565-68-0P**
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)

RN 200565-68-0 HCAPLUS

CN Ruthenate(6-), [2'-(amino-κN)-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenosinato(8-)]bis(2,2'-bipyridine-κN1,κN1')(1H-imidazole-κN3)-, heptahydrogen, (OC-6-23)- (9CI) (CA INDEX NAME)

PAGE 1-A



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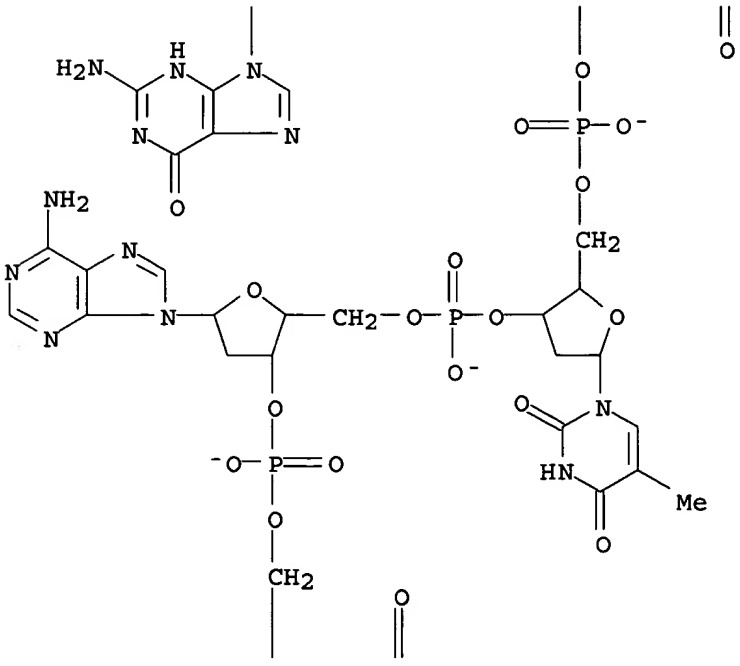

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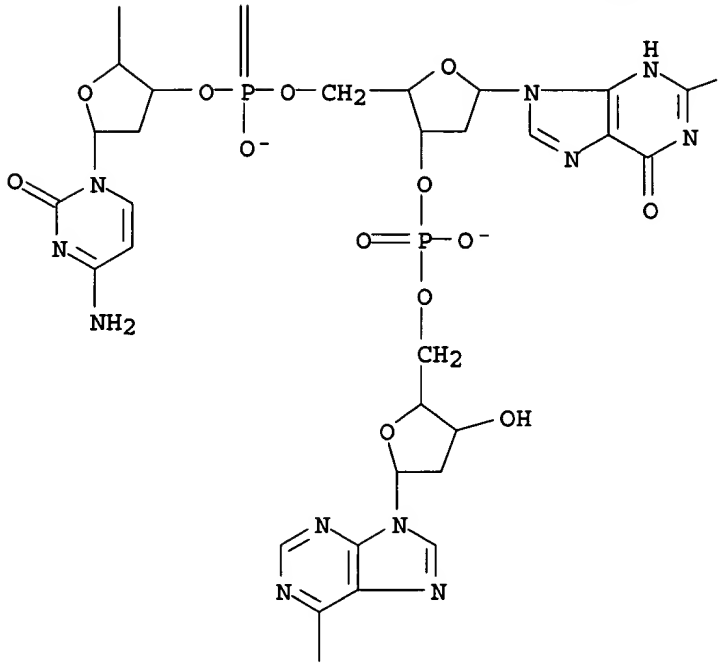

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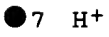
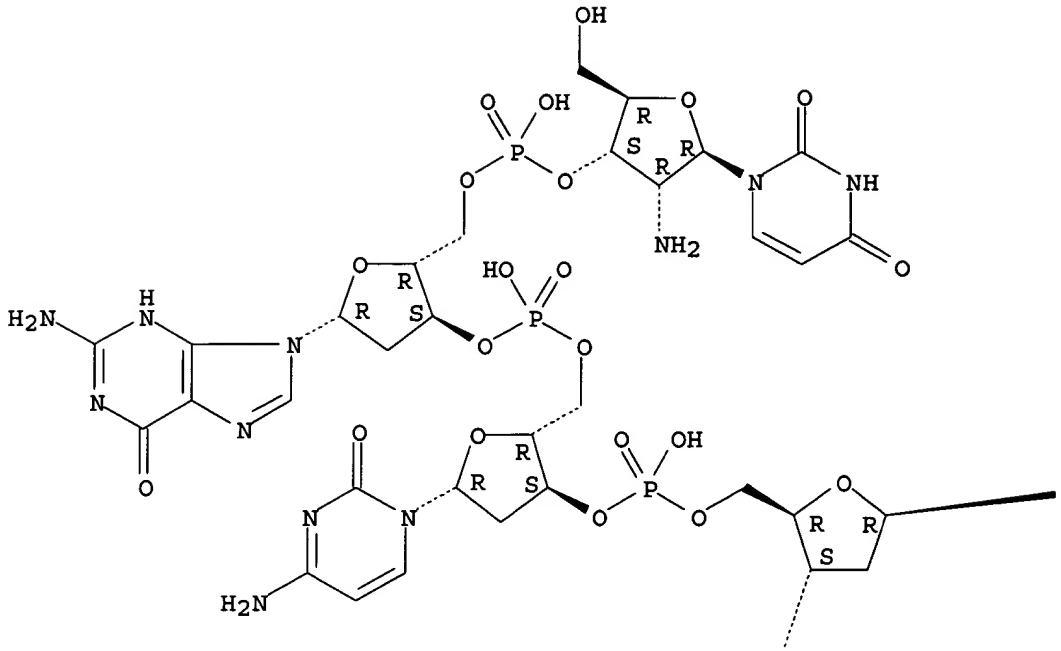
PAGE 4-A



IT **170572-25-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)
RN 170572-25-5 HCAPLUS
CN Adenosine, 2'-amino-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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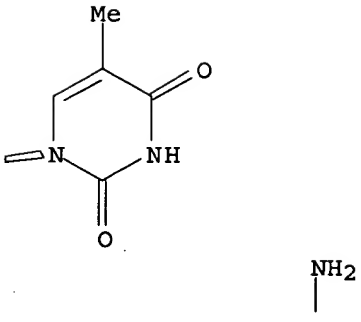

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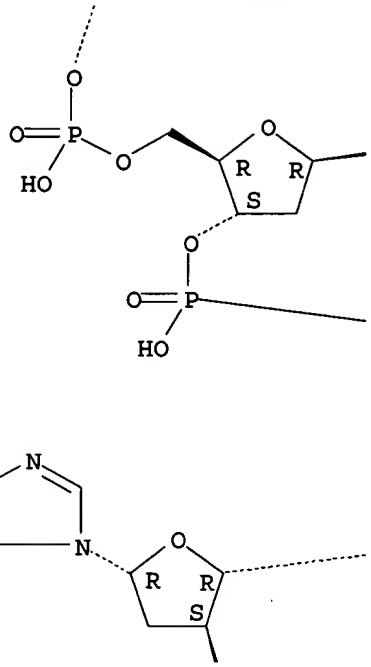

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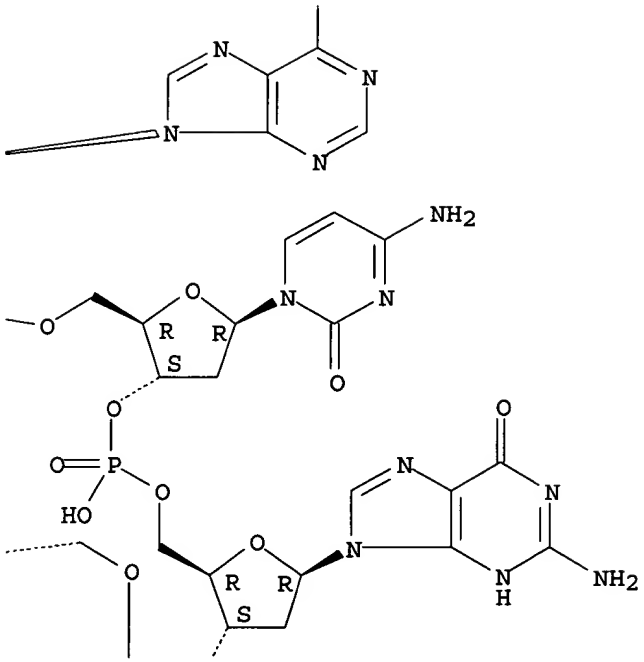

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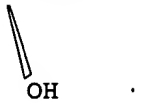

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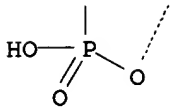

IT **200644-72-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(oligonucleotides and nucleic acids containing redox-active moieties and their use as diagnostic probes)
RN 200644-72-0 HCAPLUS
CN Ruthenate(4-), [2'-(amino-κN)-2'-deoxyuridylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenosinato(7-)]tetraammine(pyridine)-, hydrogen [2'-(amino-κN)-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenosinato(7-)]bis(2,2'-bipyridine-κN1,κN1')(1H-imidazole-κN3)ruthenate(4-) (1:14:1) (9CI) (CA INDEX NAME)

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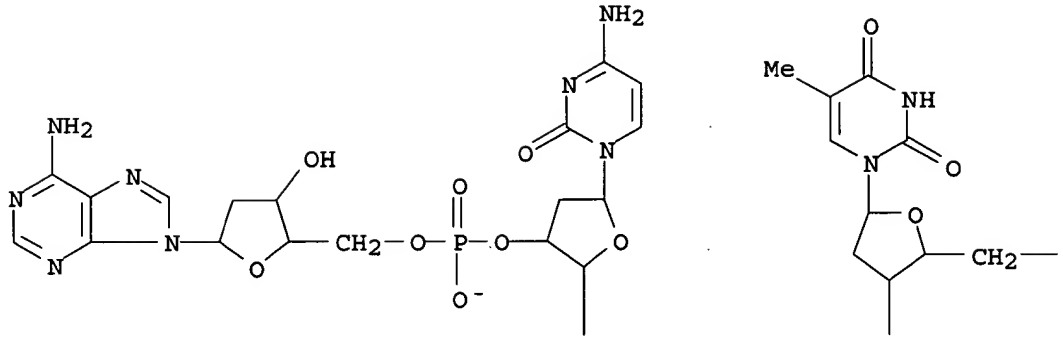
CCI CCS

PAGE 1-A



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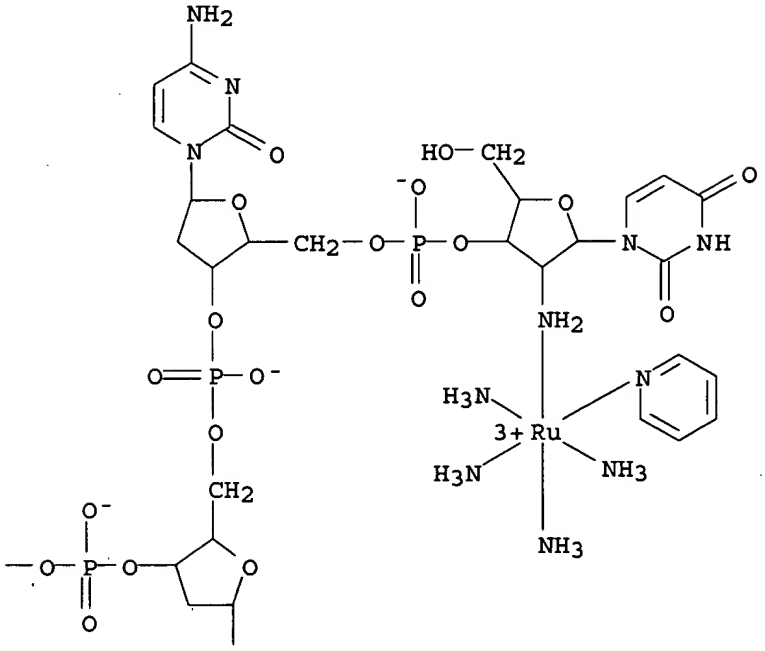

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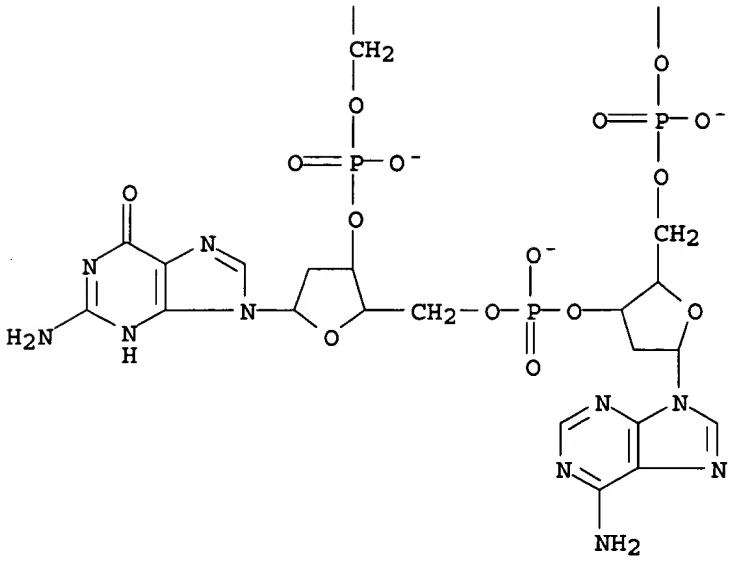

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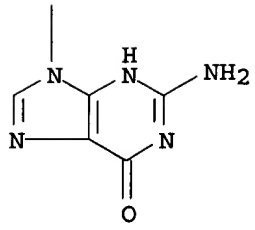

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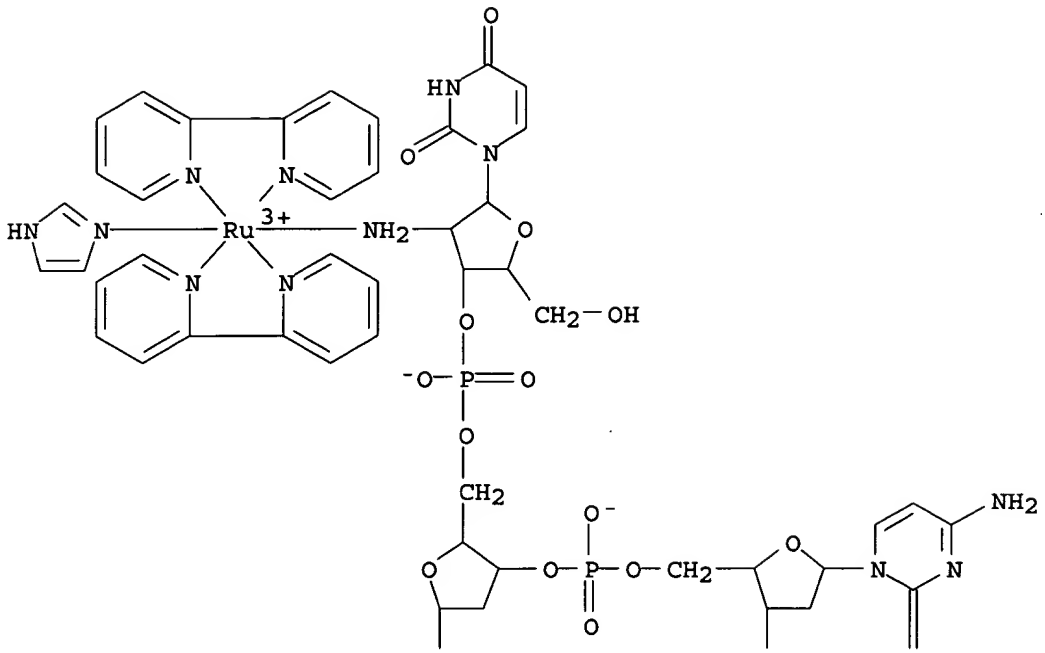
PAGE 1-A



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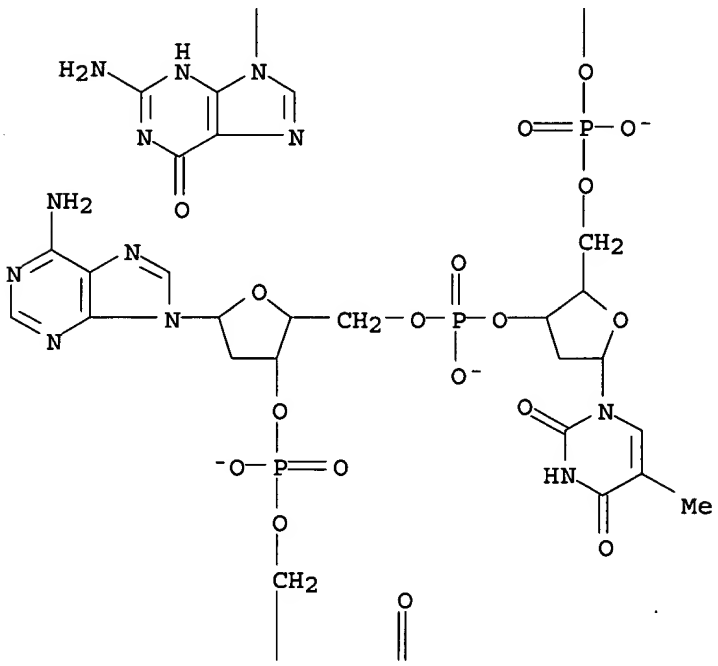

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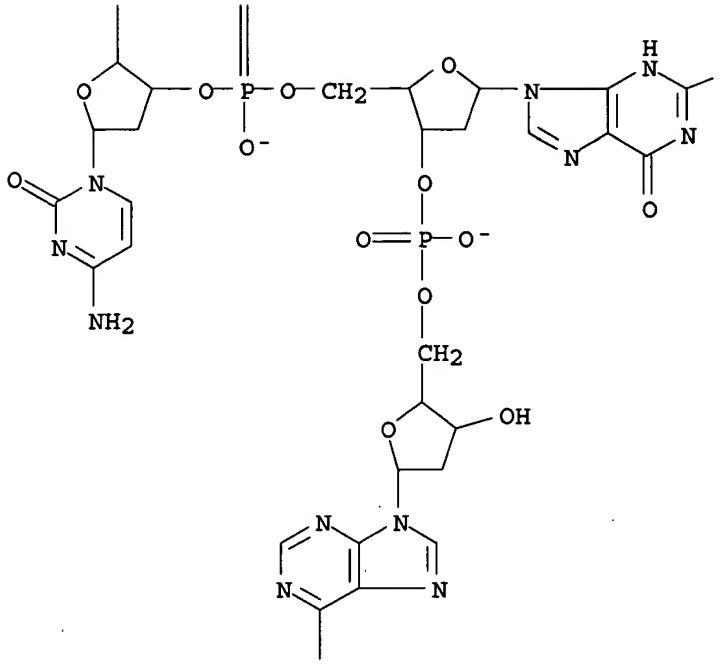

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PAGE 4-A

L47 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:931249 HCAPLUS
DN 123:334352
ED Entered STN: 21 Nov 1995
TI Nucleic acid mediated electron transfer
IN Meade, Thomas J.; Kayyem, Jon F.; Fraser, Scott E.
PA California Institute of Technology, USA
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM C07H021-00
ICS G01N033-50; C12Q001-68
CC 9-15 (Biochemical Methods)
Section cross-reference(s): 76
FAN.CNT 4

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RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE
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US 1997-946679 A1 19971008 <--
US 1999-454498 A1 19991206 <--

AB The present invention provides for the selective covalent modification of nucleic acids with redox active moieties such as transition metal complexes. Electron donor and electron acceptor moieties are covalently bound to the ribose-phosphate backbone of a nucleic acid at predetd. positions. The resulting complexes represent a series of new derivs. that are bimol. templates capable of transferring electrons over very large distances at extremely fast rates. These complexes possess unique structural features which enable the use of an entirely new class of bioconductors and photoactive probes. Preparation of 5'-2'-ruthenium bisbipyridineimidazole-aminouridine-GCTACGA was demonstrated. A method for the synthesis of long DNA duplexes with electron transfer moieties at the 5'-termini was also described.

ST bioconductor photoactive probe nucleic acid; electron transfer DNA duplex

IT Electric conductors
(bioconductor; nucleic acid mediated electron transfer and its application in bioconductors and photoactive probes)

IT Deoxyribonucleic acids
Nucleic acids
RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(conjugates of single-stranded nucleic acid with redox active moieties; nucleic acid mediated electron transfer and its application in bioconductors and photoactive probes)

IT Transition metals, biological studies
RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); BIOL (Biological study); USES (Uses)
(nucleic acid mediated electron transfer and its application in bioconductors and photoactive probes)

IT Nucleotides, biological studies
RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); SPN

(Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(oligo-, photoactive probes; nucleic acid mediated electron transfer and its application in bioconductors and photoactive probes)

IT **170572-27-7P** 170572-28-8P
RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of; DNA capable of mediating electron transfer and its application in bioconductors and photoactive probes)

IT 135896-91-2P **170572-25-5P** 170572-26-6P
RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of; for preparation of DNA capable of mediating electron transfer and its application in bioconductors and photoactive probes)

IT **170572-27-7P**
RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of; DNA capable of mediating electron transfer and its application in bioconductors and photoactive probes)

RN 170572-27-7 HCAPLUS

CN Ruthenate(4-), [2'-(amino-κN)-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenosinato(7-)]bis(2,2'-bipyridine-κN1,κN1')(1H-imidazole-κN3)-, heptahydrogen (9CI) (CA INDEX NAME)

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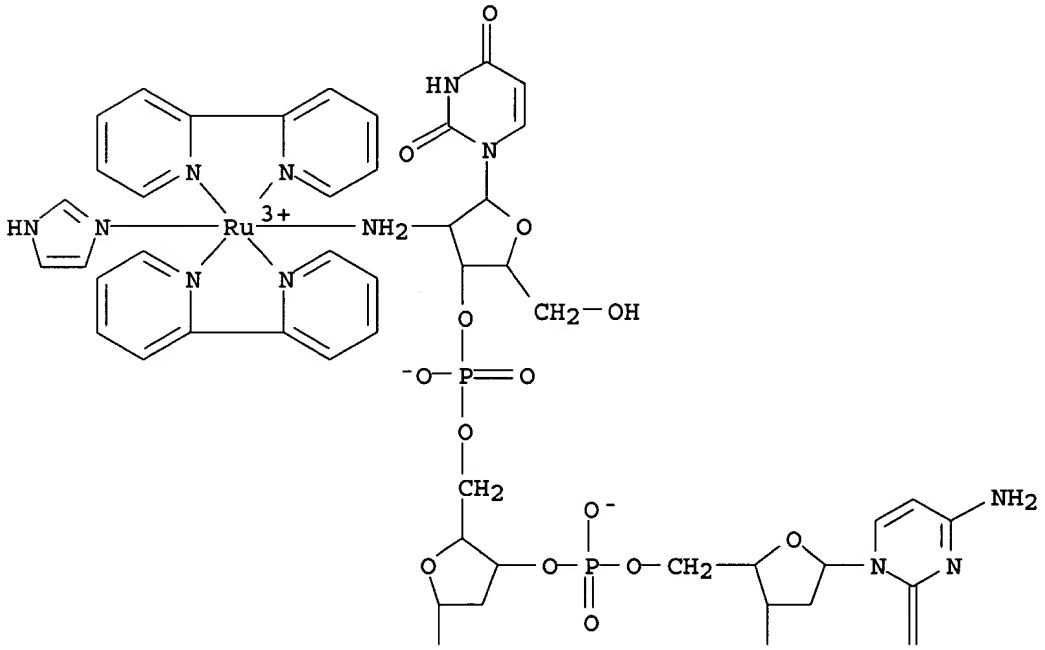

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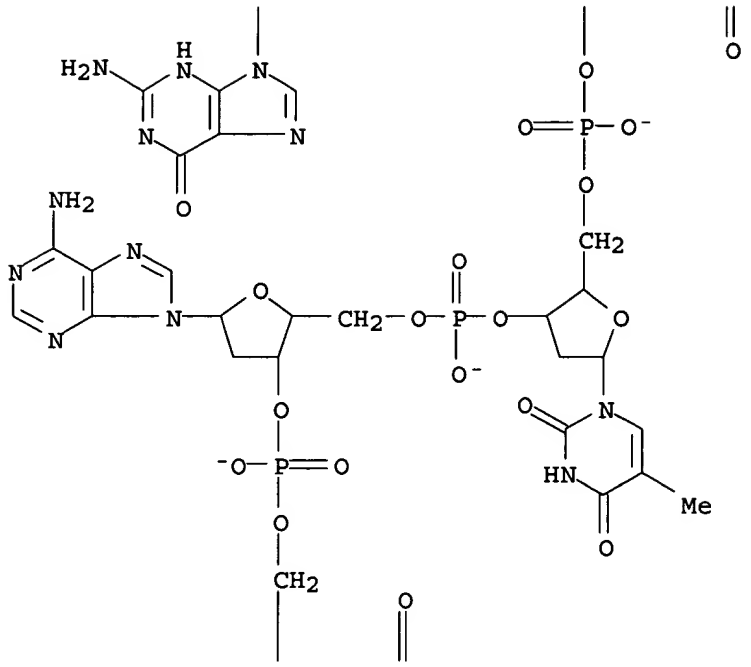

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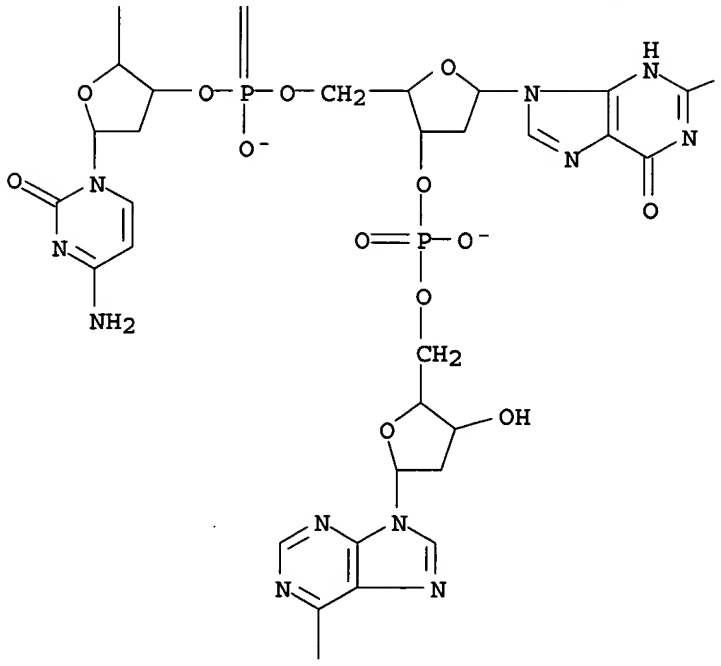

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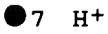
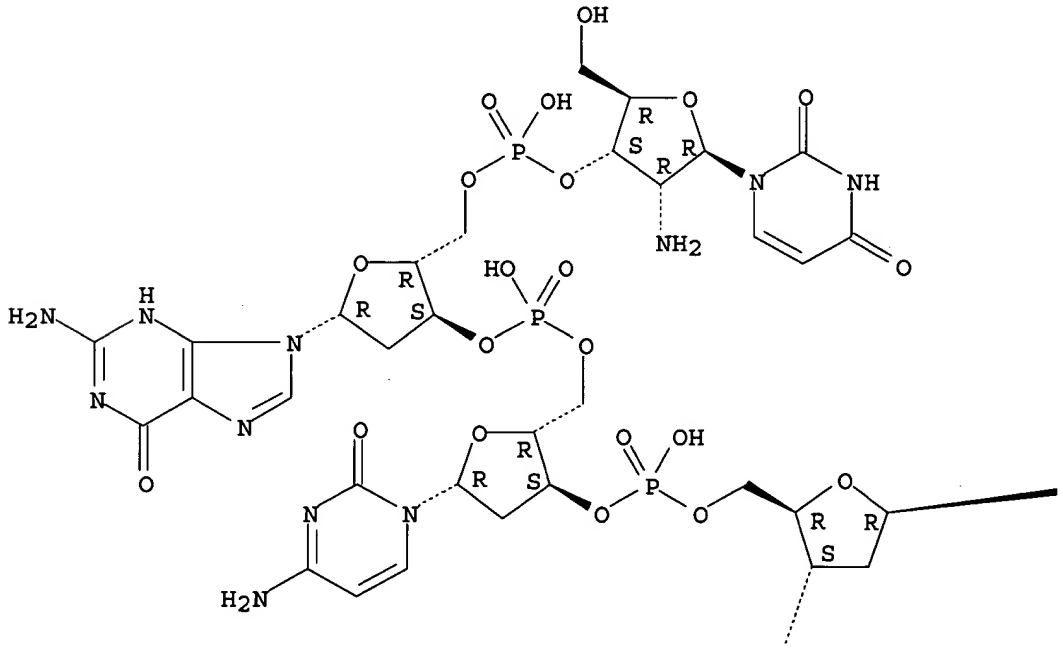


IT **170572-25-5P**
RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of; for preparation of DNA capable of mediating electron transfer
and its application in bioconductors and photoactive probes)
RN 170572-25-5 HCAPLUS
CN Adenosine, 2'-amino-2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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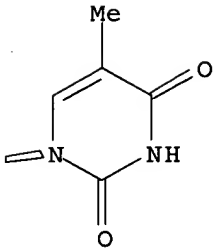

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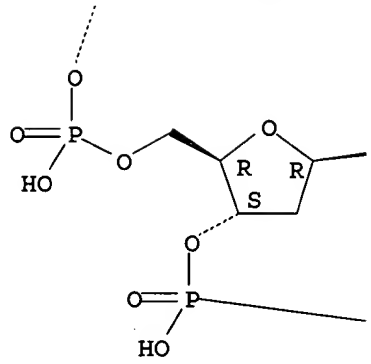

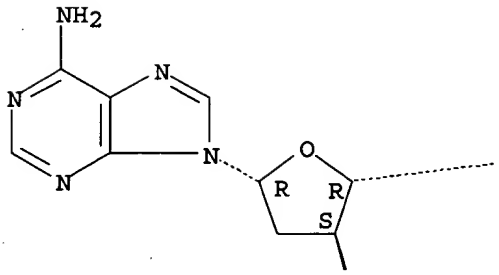

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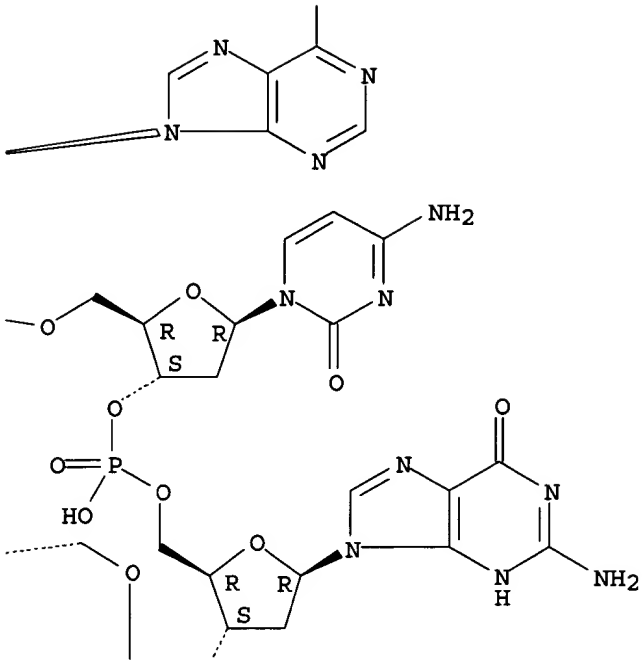

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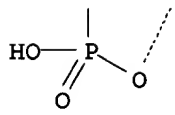

L47 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:763485 HCAPLUS
DN 123:257262
ED Entered STN: 30 Aug 1995
TI Preparation of modified oligodeoxyribonucleotides as virucides.
IN Furukawa, Hidehiko; Momota, Kenji; Hotoda, Hitoshi; Koizumi, Makoto; Kaneko, Masakatsu
PA Sankyo Co., Ltd., Japan
SO Eur. Pat. Appl., 234 pp.
CODEN: EPXXDW
DT **Patent**
LA English
IC ICM C07H021-00
ICS C07H021-04; A61K031-70; C07C317-50; C07C323-52
CC 33-9 (Carbohydrates)
Section cross-reference(s): 1, 63

FAN.CNT 1

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OS MARPAT 123:257262

AB R1R2R3ZY1BO[P(:O)(Y2R4)Y3(XY4)n]mH (R1, R2, R3 = H, alkyl , aryl anthraquinonyl; Z = C, Si; or R2R3Z = fluorenyl, xanthenyl; R4 = H, alkyl, aryl; Y1, Y3, Y4 = O, S, NH; Y2 = O, S,NH, alkylene, phenylene; X = alkylene; m, n = 0-10; B = oligodeoxyribonucleotide of chain length 3-9), were prepared Thus, DMT-O-TGGGAG-OH (I; DMT = dimethoxytrityl)(prepared by solid phase synthesis on controlled pore glass) inhibited HIV-1 activity in MT-4 cells with IC50 = 4.0 μg/mol while inhibiting multiplication of MT-4 cells themselves with CC50 >100 μg/mol. Injection, capsule, and tablet formulations containing I are given.

ST oligodeoxyribonucleotide modified prepn virucide

IT Virucides and Virustats
(preparation of modified oligodeoxyribonucleotides as virucides)

IT Nucleotides, preparation
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(oligo-, deoxyribo-,; preparation of modified oligodeoxyribonucleotides as virucides)

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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of modified oligodeoxyribonucleotides as virucides)

IT 50-89-5, Thymidine, reactions 58-61-7D, Adenosine, controlled pore glass-bound 100-39-0, Benzyl bromide 107-21-1, 1,2-Ethanediol, reactions 108-30-5, Succinic anhydride, reactions 836-42-0, 4-Benzyloxybenzyl chloride 939-26-4, 2-Bromomethylnaphthalene 1086-00-6, 1-Chloromethylpyrene 1667-11-4, 4-Phenylbenzyl chloride 1699-59-8, 3,4-Di(benzyloxy)benzyl chloride 4836-13-9 7150-83-6, Thymidine, 5'-thio- 7791-71-1, 5'-O-Tritylthymidine 17341-93-4, 2,2,2-Trichloroethoxycarbonyl chloride 19853-09-9, 2-Phenylbenzyl bromide 24131-32-6 24463-19-2, 9-Chloromethylanthracene 27930-49-0 40615-36-9, 4,4'-Dimethoxytrityl chloride 40615-39-2, 5'-O-(4,4'-Dimethoxytrityl)thymidine 40733-27-5 42506-03-6, 9-Chloro-9-phenylxanthene 55135-66-5, 9-Bromo-9-phenylfluorene 84416-84-2 85381-23-3 108783-01-3 110576-01-7 123706-69-4 125607-09-2 129536-41-0 147566-44-7 167147-63-9 167147-64-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of modified oligodeoxyribonucleotides as virucides)

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RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of modified oligodeoxyribonucleotides as virucides)

IT 25322-68-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reprepn. of modified oligodeoxyribonucleotides as virucides)

IT **167146-59-0P 167146-63-6P 167146-83-0P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of modified oligodeoxyribonucleotides as virucides)

RN 167146-59-0 HCAPLUS

CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxy-5-methylcytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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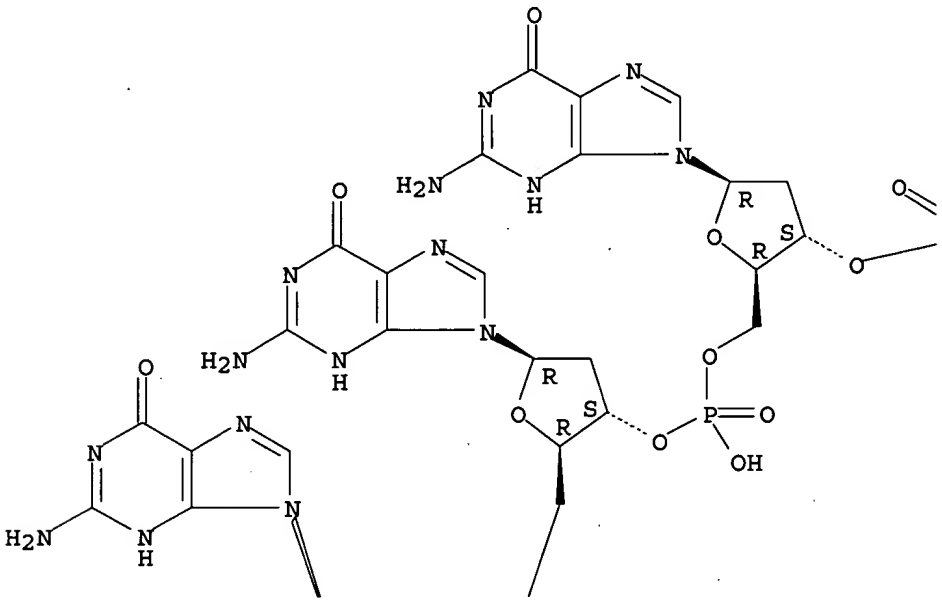

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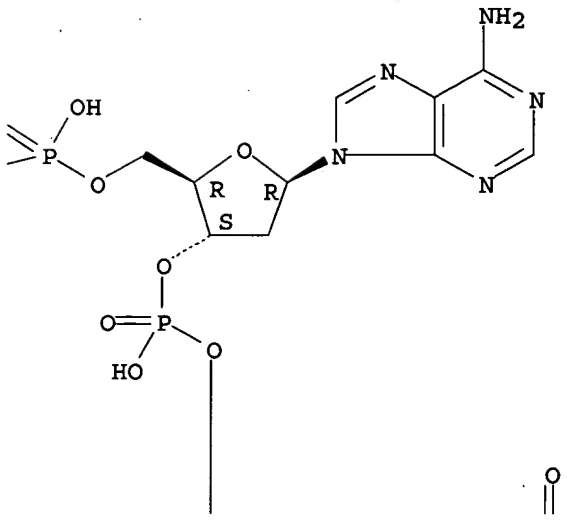

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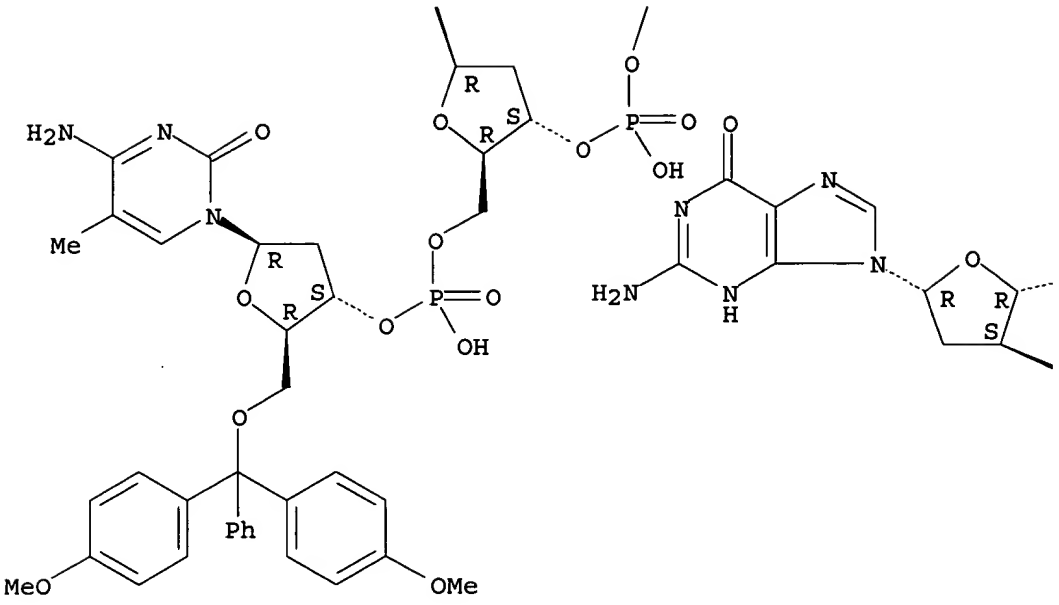

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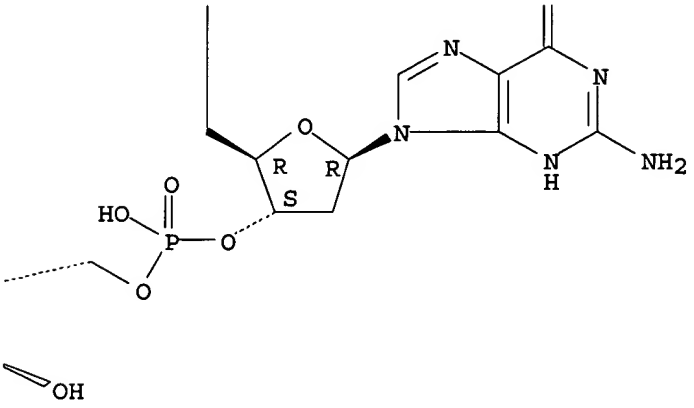

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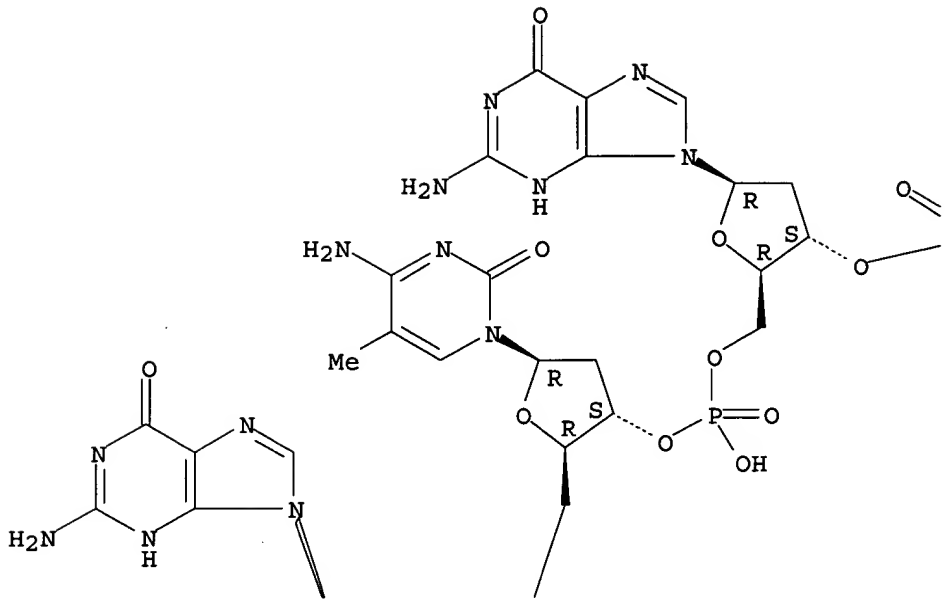
Absolute stereochemistry.

PAGE 1-A



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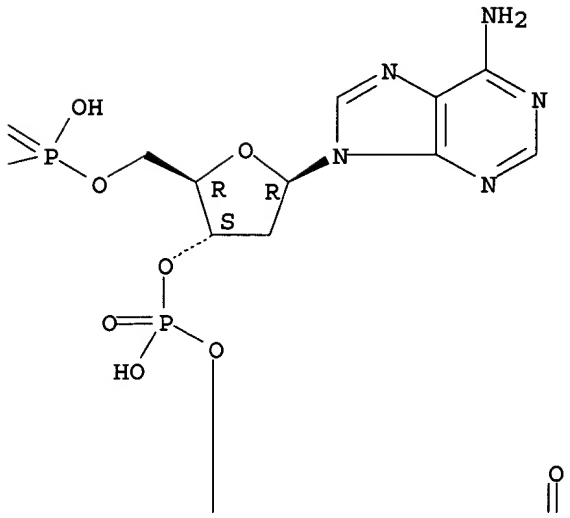

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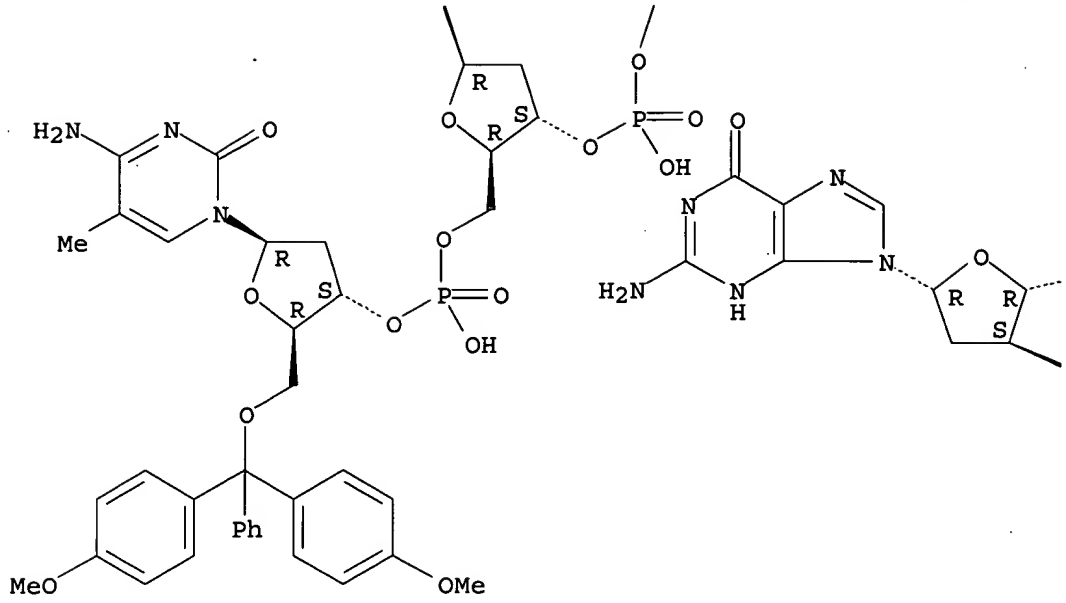

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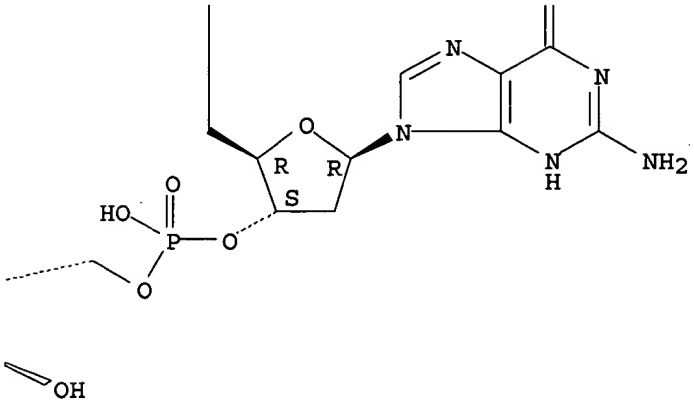

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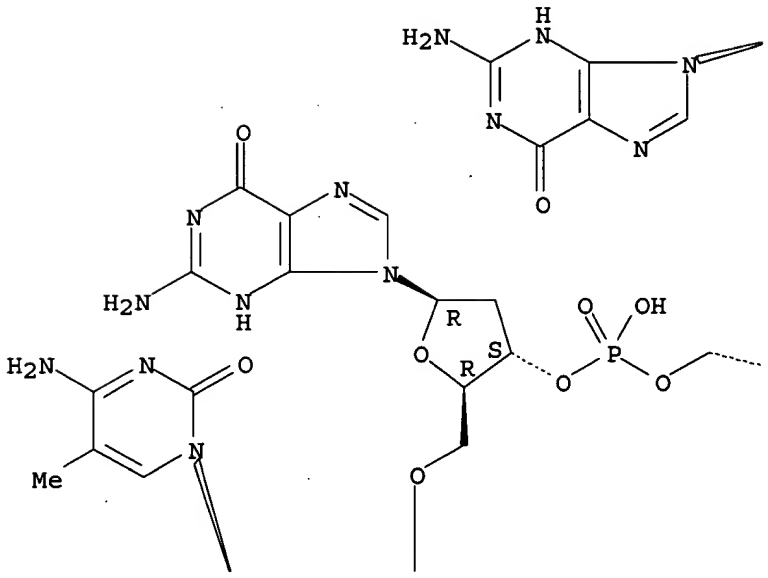
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy-5-methylcytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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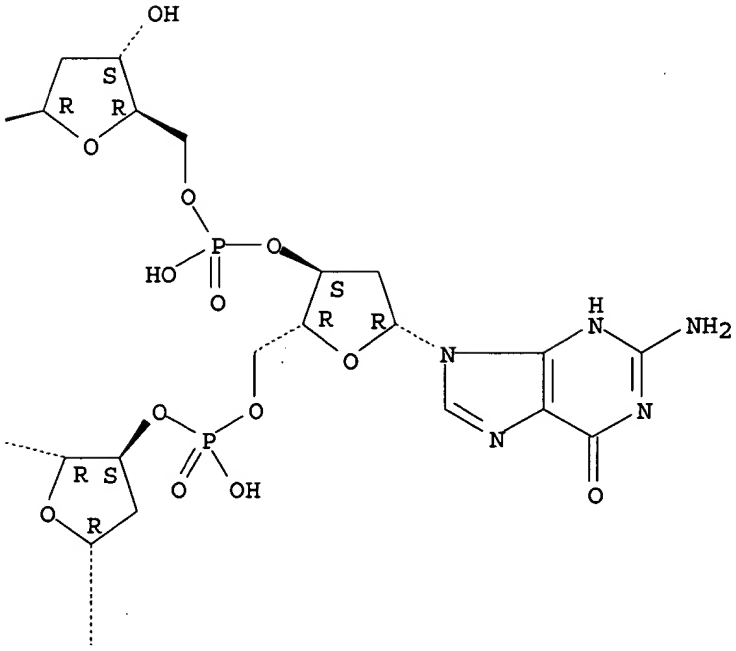

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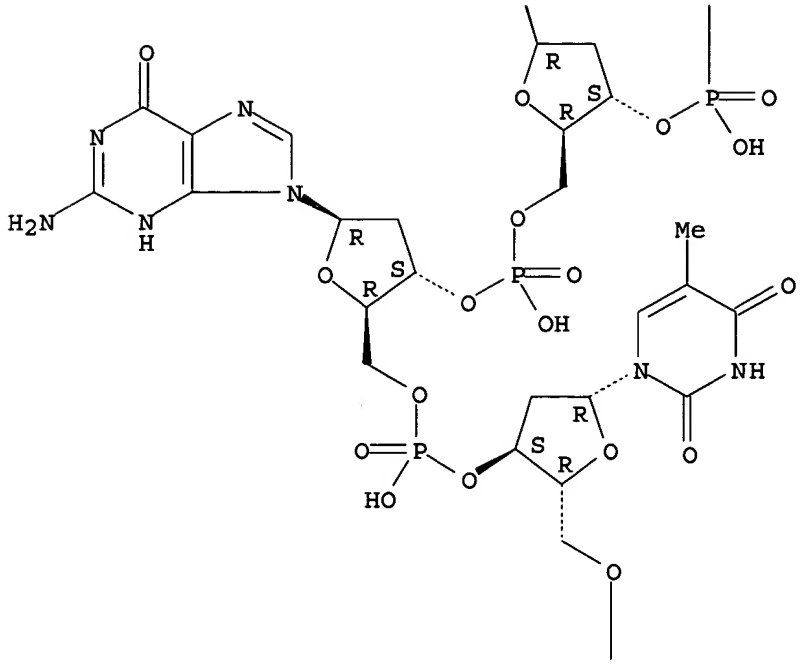

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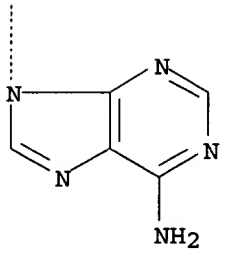

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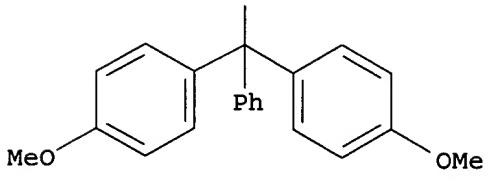

L47 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:250686 HCAPLUS
DN 118:250686
ED Entered STN: 26 Jun 1993
TI A ribozyme from the genomic RNA of δ-hepatitis virus
IN Blumenfeld, Marta; Thill, Gilbert; Vasseur, Marc
PA Genset, Fr.
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2

DT **Patent**
LA French
IC ICM C12N015-51
ICS A61K031-70; C12N009-00
CC 7-2 (Enzymes)
Section cross-reference(s): 3
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9305157	A1	19930318	WO 1992-FR840	19920903 <--
W: AU, CA, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
FR 2680797	A1	19930305	FR 1991-10872	19910903 <--
FR 2680797	B1	19950106		
AU 9225583	A1	19930405	AU 1992-25583	19920903 <--
AU 669487	B2	19960613		
EP 602157	A1	19940622	EP 1992-919440	19920903 <--
EP 602157	B1	20020116		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
JP 06510196	T2	19941117	JP 1992-505002	19920903 <--
AT 212057	E	20020215	AT 1992-919440	19920903 <--
PRAI FR 1991-10872	A	19910903 <--		
WO 1992-FR840	A	19920903 <--		

AB A ribozyme from the genomic RNA of δ-hepatitis virus cleaves RNA and DNA. The ribozyme is an 89 base-pair sequence involved in the autocatalytic cleavage of the genomic RNA, has a pseudo knot structure, and is Mg-dependent. The cleavage site for the ribozyme is identified as XGGCC (X=C,U) with cleavage between X and G.

ST ribozyme hepatitis delta virus
IT Ribozymes
RL: BIOL (Biological study)
(from RNA of hepatitis δ virus, cleavage of RNA and DNA with)
IT Delta agent
(ribozyme from RNA of, cleavage of RNA and DNA with)
IT Virus, animal
(hepatitis δ, ribozyme from RNA of, cleavage of RNA and DNA with)
IT 147899-83-0 147899-84-1 147934-22-3 **148619-96-9**
RL: BIOL (Biological study)
(cleavage site for ribozyme of δ-hepatitis virus)
IT 147681-95-6
RL: PRP (Properties); BIOL (Biological study)
(nucleotide sequence of)
IT 37211-67-9, Endodeoxyribonuclease 59794-03-5, Endoribonuclease
RL: BIOL (Biological study)
(ribozyme from δ-hepatitis virus as)
IT 147759-16-8
RL: BIOL (Biological study)
(substrate for ribozyme of δ-hepatitis virus)
IT **148619-96-9**
RL: BIOL (Biological study)
(cleavage site for ribozyme of δ-hepatitis virus)
RN 148619-96-9 HCAPLUS
CN Cytidine, 2'-deoxyuridylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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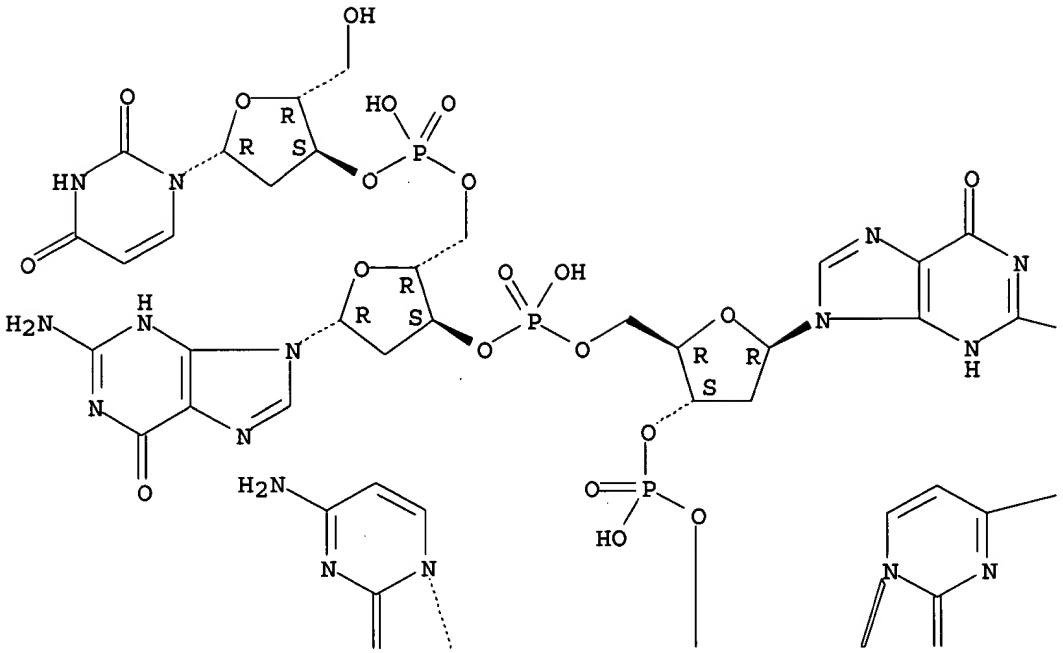

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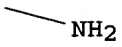

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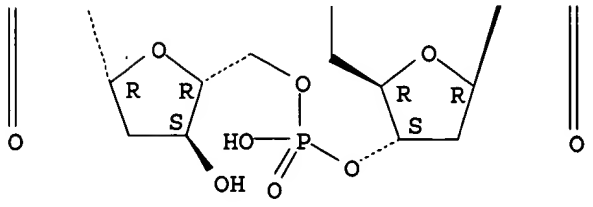

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